DOCUMENT RESUME

ED 249 893 HE 017 795

AUTHOR	Schuler, Peter
TITLE	The Netherlands: A Study of the Educational System of the Netherlands and a Guide to the Academic Placement of Students in Educational Institutions of the United States.
INSTITUTION	American Association of Collegiate Registrars and Admissions Officers, Washington, D.C.
SPONS AGENCY	International Communications Agency, Washington, DC. Directorate for Educational and Cultural Affairs.
REPORT NO	ISBN-0-910054-79-7
PUB DATE	84
NOTE	206p.; World Education Series. Placement recommendations approved by the National Council on the Evaluation of Foreign Educational Credentials. Some appendix material may be marginally legible due to small print. For other titles in this series, see HE 017 786.
AVAILABLE FROM	American Association of Collegiate Registrars and Admissions Officers, One Dupont Circle, Suite 330, Washington, DC 20036 ($4.00)
PUB TYPE	Guides - Non-Classroom Use (055) -- Reports - Descriptive (141)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Articulation (Education); *College Admission; Degrees (Academic); Elementary Secondary Education; Foreign Countries; *Foreign Students; Grading; Higher Education; International Education; International Educational Exchange; Nursing Education; Records (Forms); *Student Placement; Study Abroad; Teacher Education; Technical Education; Vocational Education
IDENTIFIERS	*Foreign Educational Credentials; *Netherlands

ABSTRACT

The educational system of the Netherlands is described, and placement recommendations concerning students who want to study in the United States are presented. After a consideration of the legal and financial bases of Dutch education and the country's educational structure, the various educational levels and types of schooling are discussed: preprimary, primary, and special education; secondary education; higher vocational education; teacher education; nursing education; university education; and international education. Guidelines are included on: stratification in Dutch education, Dutch credentials, examinations, grading practices, and conversion to U.S. units of credit. Placement recommendations are provided for each level/type of schooling. Appendices include a list of higher education institutions that offer programs recognized by the government as of 1983. In addition to the address, each institution is identified by educational sector and by the types of programs offered. Reproductions of sample transcripts, diplomas, and other credentials are also appended, along with a list of abbreviations and acronyms, a glossary, a list of references, and an index. (SW)

WORLD EDUCATION SERIES American Association of Collegiate Registrars and Admissions Officers

THE NETHERLANDS

Peter Schuler

ED249893

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

AACRAO

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

IE 07 79E

AMERICAN ASSOCIATION OF COLLEGIATE REGISTRARS AND ADMISSIONS OFFICERS

Officers of the Association 1983-84

President—Leo J. Sweeney, Director of Admissions and Registrar, University of Missouri-Kansas City, Kansas City, MO 64110.

President-Elect—James E. Thomas, Registrar, Colorado State University, Fort Collins, CO 80523.

Past President—Kenneth H. Bogard, Registrar, Miami University, Oxford, OH 45056.

Vice President for Admissions and Financial Aids—Jack H. Shirley, Director of Admissions and Registrar, University of Nevada-Reno, Reno, NV 89557.

Vice President for Data Management and Research—Bruce T. Shutt, Associate Vice President for Student Affairs and Registrar, University of Georgia, Athens, GA 30602.

Vice President for International Education—Karlene N. Dickey, Associate Dean of Graduate Studies and Research, Stanford University, Stanford, CA 94305.

Vice President for Records and Registration—John F. Collins, Jr., Registrar, University of Maine at Orono, Orono, ME 04469.

Vice President for Regional Associations—Gerald D. Bowker, Dean, Academic Services, University of Nebraska-Lincoln, Lincoln, NE 68588.

Secretary-Treasurer—Cliff Gillespie, Dean of Admissions, Records and Information Systems, Middle Tennessee State University, Murfreesboro, TN 37132.

Executive Director—J. Douglas Conner; Associate Executive Director—Hazel E. Benn; Assistant Executive Director—Laurine D. Robinson; AACRAO, One Dupont Circle, NW, Washington, DC 20036.

Managing Editor, World Education Series—Lucy McDermott; Asst. Editor—Henrianne K. Wakefield; Editorial Asst.—Jane McKeel; AACRAO, One Dupont Circle, NW, Washington, DC 20036.

AACRAO International Activities

Vice President for International Education—Karlene N. Dickey (title and address above).

World Education Series Committee—Alan M. Margolis (Chairperson), Registrar, Queens College, Flushing, NY 11367; Lee Christensen, Registrar, Pittsburg State University, Pittsburg, KS 66762; Betty Garrett, Assistant Director of Admissions, University of Texas-Dallas, Richardson, TX 75080; Andrew J. Hein, Assistant Dean, Graduate School, University of Minnesota, Minneapolis, MN 55455; Gloria Nathanson, Assistant Director of Undergraduate Admissions and Relations with Schools, University of California-Los Angeles, Los Angeles, CA 90024; E. Eugene Oliver, Director, University Office of School and College Relations, University of Illinois, Champaign, IL 61820; James R. Vaillancourt, Dean of Enrollment Services, Old Dominion University, Norfolk, VA 23508; Robert D. Barendsen (*ex officio*), Specialist on Education in Far Eastern Countries, U.S. Department of Education, Washington, DC 20202; Adeline C. O'Connell (*ex officio*), Senior Program Officer, Student Support Services Division, U.S. Information Agency-ECA/AS, Washington, DC 20547; Hattie Jarmon (*ex officio*), Education Specialist, Office of International Training, U.S. Department of State/AID, Washington, DC 20523.

Committee Chairpersons:

AACRAO/AID Project—E. Eugene Oliver, Director, University Office of School and College Relations, University of Illinois, Champaign, IL 61820.

Admissions, Evaluation and Placement—Martha Renaud, Manager, Placement Services Division, Institute of International Education, New York, NY 10017.

International Student Research—Robert K. Brashear, Assistant Director of Admissions, University of Houston Central Campus, Houston, TX 77004.

Study Abroad by United States Students—Thomas Roberts, Associate Director, Beaver College Center for Education Abroad, Glenside, PA 19038.

The Netherlands

A Study of the Educational System of the Netherlands and a Guide to the Academic Placement of Students in Educational Institutions of the United States

Peter Schuler
California State University, Chico

1984

A Service of the International Education Activities Group of the American Association of Collegiate Registrars and Admissions Officers

Placement Recommendations Approved by the National Council on the Evaluation of Foreign Educational Credentials

4

Library of Congress Cataloging in Publication Data

Schuler, Peter.
The Netherlands.

"A service of the International Education Activities Group of the American Association of Collegiate Registrars and Admissions Officers."
Bibliography: p.
Includes index.
1. School management and organization—Netherlands. 2. School credits—United States. 3. Students, Foreign—United States. 4. Students—Netherlands. I. American Association of Collegiate Registrars and Admissions Officers. International Education Activities Group. II. Title.

LB2921.S37 1984 371'.009492 84-14525
ISBN 0-910054-79-7

Publication of the World Education Series is funded by grants from the Directorate for Educational and Cultural Affairs of the United States Information Agency.

Contents

Acknowledgements ix

Map x

Chapter 1. Introduction to Dutch Education 1
- Land and People 1
- The Legal and Financial Bases of Dutch Education 4
- Overview of the Structure of Dutch Education 6

Chapter 2. Preprimary, Primary, and Special Education 9
- Background 9
- Preprimary Education 10
- Primary Education 10
- The New *Basisschool* 11
- Special Education 12

Chapter 3. Secondary Education 13
- Introduction 13
- General Secondary Education 14
  - Lower General Secondary Education/LAVO 14
  - Intermediate General Secondary Education/MAVO 14
  - Higher General Secondary Education/HAVO 15
  - University Preparatory Education/VWO 16
- Vocational Education 19
  - Lower Vocational Education/LBO 19
  - Intermediate Vocational Education/MBO 21
- Other Forms of Secondary Education 24
- Historical Notes on Secondary Education 26

Chapter 4. Higher Vocational Education 27
- Introduction 27
- Types of HBO Programs 30
  - Art Education 30
  - Higher Agricultural Education/HLO 32
  - Higher Economic and Administrative Education/HEAO 33
  - Higher Health Care Education/HGZO 34
  - Higher Home Economics Education/HHNO 36
  - Higher Retailers' Education/HMO 37
  - Higher Socio-Pedagogical Education/HSPO 37
  - Higher Technical Education/HTO 41
- Post-HBO Courses 45

Sample Programs 46
Other (Nonuniversity) Higher Education Programs 46

Chapter 5. Teacher Education 49
Introduction 49
Preprimary Teacher Education 50
Primary Teacher Education 51
Primary Teacher Education, Post-August 1983 51
Primary Teacher Education, 1968 to 1983 53
Pre-1968 Primary Teacher Education 56
Secondary and Vocational Teacher Education 57
Levels of Secondary and Vocational Teaching Qualifications 57
Programs for First-, Second-, Third-Level Teaching Qualifications 58
Fulltime Preparation for First- or Highest-Level Teaching Qualifications 58
Fulltime Second- and Third-Level Teaching Qualifications 59
Part-Time Training of Secondary Level Teachers 60
Teacher Education Programs in Specified Areas of Study 64
Older Vocational Qualifications (*N-Akte*) 65

Chapter 6. Nursing Education 66
General Information 66
Hospital Training Programs for Nurses 66
Vocational School Nursing Programs 68
Intermediate Vocational Training for Nurses 68
Higher Vocational Nursing Programs 69
Conclusions 71

Chapter 7. University Education 72
General Information 72
University-Level Institutions 73
Governance and Administration 77
Finance and Research 79
Faculty, Ranks and Qualifications 79
Admission Requirements 80
Student Services 81
Transfer Between Higher Vocational Institutions and the Universities 82
Traditional University Programs 83
The New Two-Phase Structure 87
The First Phase 88
The Second Phase 89
Comparison of Old and New University Programs 91
Sample Programs 92
Special Institutions 103
The Open University Proposal 104

Chapter 8. International Education 106
Introduction 106
Institutions/Programs Offering a Dutch International Education Master's Degree 107
Institutions/Programs Offering Only Certificates or Diplomas 110

Chapter 9. Guidelines and Placement Recommendations 116
Guidelines 116
Stratification in Dutch Education 116
Dutch Credentials 119
Examinations 122
Grading Practices 123
Conversion to U.S. Units of Credit 126
Useful Addresses 127
Placement Recommendations 128

Appendix A: Institutions of Higher Education, 1983 136

Appendix B: Sample Documents 153

Appendix C: Selected Abbreviations and Acronyms 169

Glossary 172

Selected Useful References 179

Index 180

Tables

1.1. Major Educational Legislation in the Netherlands Since 1917 5

1.2. The Educational System of the Netherlands, 1983 7

1.3. Enrollments in Dutch Education, 1982-83 8

3.1. HAVO Sample Lesson Plan 15

3.2. *Gymnasium* Sample Lesson Plan 17

3.3. *Athenaeum* Sample Lesson Plan 18

4.1. Civil Engineering Syllabus, Higher Technical School (HTS) 42

4.2. Electrical Engineering Syllabus (HTS) 42

4.3. Mechanical Engineering Syllabus (HTS) 43

5.1. Preprimary Teacher Education Program Through August 1983 51

5.2. Curriculum Components, New Primary Teacher Education Program (PABO) 53

5.3. Primary Teacher Education Program of the *Pedagogische Academies*, 1972 55

5.4. Majors Available at Selected New Secondary Teacher Education Institutions 61

7.1. Fields of Study Available at Dutch Universities 74

7.2. Standard Years of Study for Selected Objectives at Dutch Universities, 1981 84

7.3. Comparison of the Old and New Curricula in Psychology, State University of Leiden 91

7.4. The New Sociology Program, Catholic University, Tilburg 94

7.5. "Old" Law Program (International Option), State University of Utrecht 95

7.6. "New" Law Program (International Option), State University of Utrecht 96

7.7. "Old" Chemical Engineering Program, Twente University of Technology 98

7.8. "New" Chemical Engineering Program, Twente University of Technology 100

8.1. Programs Offered by the International Institute for Aerial Survey and Earth Sciences 109

9.1. Most Common Grading Scale in the Netherlands 124

9.2. Summary of Grades Awarded in the 1980 National Final General Secondary and Pre-University Examinations in All Subjects 124

9.3. Descriptive Student Ratings Employed at the Universities 125

Sample Documents

2a. Grade List (*Cijferlijst*) for Final Examinations of Higher General Secondary Education (HAVO) Program 153

2b. HAVO Diploma 154

2c. Reverse of 2b 154

3a. VWO Grade List (*Cijferlijst*) 155

3b. VWO Diploma 156

3c. Reverse of 3b 156

4a. Periodic Grade Report (*Rapport*) for Intermediate Technical Education (MTO) Program 157

4b. Reverse of 4a 157

4c. MTO Diploma 158

6a. Declaration (*Verklaring*) of Completion of Practical Year in Higher Technical Education (HTO) Program 159

6b. HTO Diploma 160

6c. Reverse of 6b 160

7a. Grade List (*Cijferlijst*) for Final Examination Leading to Primary Teaching Certificate 161

7b. Primary Teaching Certificate 162

7c. Reverse of 7b 163

8. Grade List for Preliminary Exam Given after First Year and Statement of Having Passed, Technical University Program of New (Post-1982) Type 164

9. Statement of Having Passed Intermediate or Candidate's Examination (*Kandidaatsexamen*) 165

10. Statement of Having Passed Final Examination (*Doctoraalexamen*) of Technical University Program and Being Authorized to Use Title of Engineer (*Ingenieur*) 166

12a. Course Record for International Education (IE) Diploma Program ... 167

12b. Diploma of International Education (IE) Program 168

Acknowledgements

In producing this volume I have had a great deal of material assistance, encouragement and support from many people. I will not try to name them all here, but they know who they are, and I hope they will accept my sincere thanks. There are, however, some whose kindness and contributions I would like to acknowledge individually.

Caroline Aldrich, Associate Director of Admissions, California State University, Chico, originally inspired me to write this book; her reassurance and guidance meant a great deal to me throughout the entire writing process. Alan Margolis, Senior Registrar at Queens College, and World Education Series Committee Chairperson, was a tremendous help in getting me off to a proper start and setting the pace for the production of this volume. Mary Cay Martin, Director of the University of Chicago's Office of International Student Services, my monitor, has been much more than a reader and facilitator. Her insightful comments and revisions have improved many a murky section and her questions led me to explore ground that might otherwise have been left uncovered. Dr. John S. Morgan, Dean of the Graduate School at California State University, Chico, and my boss, deserves special thanks for his support throughout this project and especially for his patience and understanding.

Of course, there would be no book without the tremendous efforts of Lucy McDermott, WES Managing Editor; Henrianne Wakefield, the Assistant Editor; and Jane McKeel, the Editorial Assistant. Their help frequently transcended purely mechanical matters and contributed substantially to improvements in organization and clarity.

Numerous Dutch officials from the Ministry of Education and Science and NUFFIC, as well as a myriad of institutional representatives from all educational sectors contributed information and advice. I am particularly grateful to Mr. D. J. Jansen, Head of the Section for Secondary Education, and Dr. J. Bos, Head of the Section for Higher Vocational Education, for their courteous efforts in furnishing high-quality comprehensive materials, and for reading and commenting on portions of the manuscript. Perhaps the most pleasant experiences of my trip to the Netherlands were my two interviews with Dr. P. van den Broek, Professor of Educational Sciences at the State University of Leiden. Not only was Professor van den Broek most accommodating during my visit, but he graciously read parts of the manuscript and contributed invaluably to my research.

Finally, in the process of maintaining a fulltime job, authoring a book, and being a husband and a father to four youngsters, I inevitably but temporarily neglected some facets of my life. For sticking by me, even though I wasn't always there, I'd like to dedicate this book to my loving family and particularly to my sweet wife, Dolly.

THE NETHERLANDS

Chapter 1

Introduction to Dutch Education

Land and People

Small as nations go, covering less than 16,000 square miles (ca. 41,000 square kilometers) on the northwestern coast of Europe in the low, flat delta regions of the Rivers Rhine, Maas, and Schelde, the Kingdom of Netherlands with more than 14 million inhabitants has one of the densest populations in the world. Large areas of land lie below sea level, having been reclaimed over the centuries by a system of dikes constructed to hold the sea at bay. Even with the sea contained, adequate drainage is a constant struggle in a low land contending with abundant rainfall and the influx of three major European rivers. To deal with so much water, the Dutch have developed an elaborate system of canals crisscrossing the entire country, the largest of which are equally important as navigable inland waterways. Pumping water from low-lying areas was traditionally accomplished by the well-known windmills, many of which have been carefully preserved, but this task is now handled by efficient modern equipment.

Though the Dutch have long struggled to wrest land from the sea, the North Sea itself is an important resource in terms of trade and commercial fishing, and at one time as the link to a number of colonies of which only the Netherlands Antilles remain as a semi-autonomous part of the kingdom. The sea has had a stabilizing effect on temperature extremes which, coupled with adequate rainfall, the flatness of the land and its ability to support vegetation much of the year, has helped make agriculture an important industry in spite of the dense population. In fact, the Dutch are exporters of such items as dairy products, beef, produce, and flowering bulbs. Virtually no plot of ground is wasted; if too small for commercial use, someone inevitably turns it into a kitchen garden.

In addition to extensive inland waterways and harbor facilities, the Netherlands has perhaps the densest electrified railway network in Europe, with a high frequency of both domestic and foreign-bound trains. Though the country is not particularly well-endowed with raw materials, the relative ease with which these can be transported has helped support extensive industrial development, especially in high technology areas. A modest supply of coal, some North Sea oil, and an abundant supply of natural gas have helped meet both industrial and private energy needs.

The picturesque uniqueness of the Dutch countryside has contributed greatly to a flourishing tourist industry; however, at least as much of this success derives from a national commitment to the preservation of historical landmarks and to the Dutch National Tourist Service. The nature of this land, crossed by a multi-

tude of waterways, and the ever present and sometimes threatening sea, have set natural parameters evident to a degree in the livelihood of the people and perhaps more subtly in their attitudes and values. The physical environment has also influenced Dutch education, most visibly in the vocational sector, which in part roughly mirrors those occupations best suited to this setting.

Perhaps of greater importance than the physical environment in determining the characteristics of a society's educational institutions are its people. An educational system not only reflects the values and heritage of the people it serves but is also in turn one of the instruments by which they are preserved and changed.

Perhaps the oldest "people" issue, at least in terms of its origin, and one which has taken on a new dimension in recent times, is rooted in ethnic differences. Even in the days of the Roman occupation of the Rhine delta, the Germanic tribes displacing the sparse Celtic population in the area spoke various dialects. The region which became the Netherlands was settled by Frisians along the northern coast, Saxons in the east, and Franks in the south. While a lower Franconian dialect is the forerunner of the present standard Dutch language, various dialects continue to be spoken to this day. The Frisians, whose territory includes the Frisian Islands owned in part by West Germany and Denmark, in fact, have never become fully culturally integrated with their neighbors. The Frisian language has continued its more or less independent development to the present and has come to be recognized as a separate language with a literature of its own. Anxious to preserve its separate cultural identity, the Frisian minority after repeated efforts through the years, finally succeeded in gaining the right to bilingual education at the elementary level.

In recent years the ethnic issue has broadened in scope to include not only the Frisians and the small Jewish community but immigrants from former colonies, particularly Indonesia and Surinam, and from the Netherlands Antilles. This immigration has resulted in substantial minorities of Asians and Blacks, especially in urban areas. Also, a large number of workers from Mediterranean countries who came in more prosperous times have remained in the Netherlands.

In recognition of this expansion of ethnic diversity, the New Primary Education Act (1981) has extended the right to primary instruction in their native language to all children of non-Dutch cultural background beginning in 1985. The new law further stipulates that primary education proceed from the premise that pupils are growing up in a diverse cultural and linguistic society. Thus, even within this small constitutional monarchy the "true" Dutch identity can be a somewhat evasive quality.

The national identity also faces challenges from outside. The Dutch are keenly aware of being surrounded by larger countries exerting cultural, economic and political influences of varying degrees. U.S. and British music, English language publications, and U.S. films enjoy wide popularity. West Germany plays a vital part in the economic life of the country. The Dutch have adapted well to the situation. They participate actively in European and world affairs exhibiting a flair for tolerance and compromise. The educational system has assisted in this

participation by promoting an understanding among the people of the Dutch role in Europe and the world and has encouraged efficient communication with the people of other nations through the acquisition of foreign language skills, particularly in English and, to a lesser extent, German.

A second major "people" theme that has shaped Dutch society and education is religion. That a great degree of religious tolerance has graced the Netherlands is historically witnessed by the fact that 16th-century Spanish Jews found refuge in the Netherlands from the persecutions of Philip II, as have others since that time. This tolerance has not prevented the various denominational factions from zealously pursuing their own interests, including control of their children's schools. The lasting impact this factional control has had on the entire Dutch educational system is discussed in more detail in the next section.

The institutional affiliations of today continue to reflect to some degree the underlying religious preferences of the Dutch. Catholics and Protestants presently each make up about 40% of the population, while the remaining 20% belong to other smaller religious groups, or have no declared preference. The following is a breakdown of the affiliation of all educational institutions in the Netherlands excluding the universities: public, 26%; Catholic, 41%; Protestant, 26%; other private institutions, 7%.[1]

At the university level there are two Catholic institutions with university status, one Protestant university, one unaffiliated private institution with university status, one municipal university and nine state institutions with university status.

While ethnic and religious issues often revolve around the rights of groups, the rights of the individual have also been a major concern of the Dutch people. On the whole, as in many other western European countries, the trend in the Netherlands has been one of expanding individual rights and social benefits, including among many others free compulsory education through grade 10 and financial aid based on need for those going on for further education.

Two main areas of ongoing concern in education have been equality of access, particularly with programs which provide socio-economic advantages, and the rights of students, faculty, staff, and the general public to participate in the governance and administration of educational institutions. Definite steps to provide equality of access in education have been taken. The *brugjaar* or transition year (grade 7) under the present structure was implemented in 1968 (as a result of the 1963 Secondary Education Act) to defer selection of a particular secondary stream for an additional year after the completion of primary school. The success of the transition year has been somewhat limited, however, and it is primarily in schools offering multiple programs (*scholengemeeschappen*) that its objective is readily implemented. At the higher educational level, experimental transfer opportunities have been available between university and higher vocational institutions since 1980, but the number of students involved is small and

1. *Het Koninkrijk der Nederlanden. Feiten en Cijfers: Onderwijs en Wetenschappen* (The Hague: Ministry of Education and Science, 1981), p. 5.

the process of transfer itself cumbersome. Nevertheless, statements from the Ministry of Education and Science and planned legislation both point to continuing efforts to broaden opportunities.

As for involvement in administration and governance, the University Administration Act of 1970 gave students, administrative staff and faculty at the universities the distinct right to be represented on the various bodies involved. As a result of the Educational Participation Act implemented in 1982, similar rights have been given to students (or parents, where most of the pupils are under 16), staff, and faculty of all other types of institutions, allowing them to be represented on institutional "participation" boards with definite legal powers in administrative matters.

The Legal and Financial Bases of Dutch Education

Until the nineteenth century, with the exception of the universities, educational matters were largely in the hands of local authorities; there was great disparity in the quality of schools, and attendance was poor. Early in the nineteenth century, legislation providing for centralized control of education at the national level was passed but proved to be unsatisfactory to various religious groups concerned with the educational environment of their children. In 1848, a provision in the Constitution guaranteed the freedom of virtually any group with a legal identity to establish schools. It was not until 1917, however, that the Constitution provided for a system of funding in which private (whether denominational or not) and public institutions are funded on an equal basis at the national level, provided they meet certain legal criteria.

Thus, the Dutch Parliament assumed a central role in defining the structure, the organization, and in some cases even the broad features of the curriculum in a series of laws that have all but eliminated the distinction between public and private education. While it would be inaccurate to say that there are no differences in quality among institutions, it is impossible to make such distinctions based on denominational affiliation, philosophical orientation, or whether a particular school happens to be a public or private institution. No matter who controls the governing board of a given institution, such factors as faculty qualifications and salaries, class size, hours of instruction, and even such details as the funding for laboratory equipment and supplies, and maintenance of facilities, all are regulated by national law. Table 1.1 summarizes major educational legislation since 1917.

The Ministry of Education and Science is responsible for the implementation of the laws for all educational levels and sectors, with the exception of agricultural education, which is regulated by the Ministry of Agriculture and Fisheries. The Minister of Education and Science is appointed by the Prime Minister and is assisted by two state secretaries, also appointed. A national Education Council advises the Minister on new legislation, reorganization and innovation, and the implementation of legislation already passed.

Although the constitutional monarchy is divided into 11 provinces, each of which enjoys a degree of autonomy, the provincial governments are hardly a

Table 1.1. **Major Educational Legislation in the Netherlands Since 1917**

Year	Law	Major Features
1920	Primary Education Act	Regulated primary education effective until 1985
1955	Preprimary Education Act	Established free preprimary education for 4–6 age group
1960	University Education Act	Established some features of present university system; modified by 1970 and 1981 Acts
1963	Secondary Education Act	Introduced present structure of secondary and higher vocational education, effective 1968
1966	Apprenticeship Act	Defined legal obligations of employer and apprentice, and mandatory theoretical instruction
1967	Royal Special Education Decree	Regulates all special education, preprimary through secondary
1969	Compulsory Education Act	Extended compulsory education to 10 years, effective 1975
1970	University Administration Act	Provided for guaranteed representation of faculty, staff, and students in university governance and administration
1970	Educational Experiments Act	Provided for financial support and structure of legislatively approved educational experimentation
1979	Higher Vocational Education Act	Established higher vocational education as a distinct sector
1981	New Primary Education Act	Merged preprimary and primary education into "basis education" (*basisonderwijs*/BaO)
1981	New University Education Act	Defined standard length of all first degree programs as 4 years
1982	Educational Participation Act	Provided for student (and, in some cases, parent) participation in school governance and administration for secondary and vocational institutions

factor in education. It is the private sector, the municipalities, and the national government that establish and operate schools. At the preprimary and primary levels the approximately 829 municipalities are responsible for ensuring that adequate numbers of institutions are provided. This commonly involves assisting with the establishment of private schools, which constitute about 70% of all preprimary and primary institutions. Municipalities also are involved in the establishment of institutions at other levels, especially in the secondary sector. State or national institutions are found only in higher education.

All funding for education is at the national level. In recent years about 20% of the annual national budget has gone to education. In spite of this high level of funding provided equally to qualifying private and public institutions in all sectors, only the first 10 years of education, i.e., the compulsory period, are free. Even at this level, schools may ask parents for "voluntary" contributions, although these are usually modest and are used for such expenditures as field

trips and special materials. After the fourth year of secondary school (beginning at grade 11) parents must pay for their children's further attendance based on their financial ability at a rate that does not exceed 500 guilders (about $180) per child per year. Higher vocational institutions charge about $260 in fees and tuition annually, the universities about $360. Needy students in both these sectors are provided financial aid by the government.

Overview of the Structure of Dutch Education

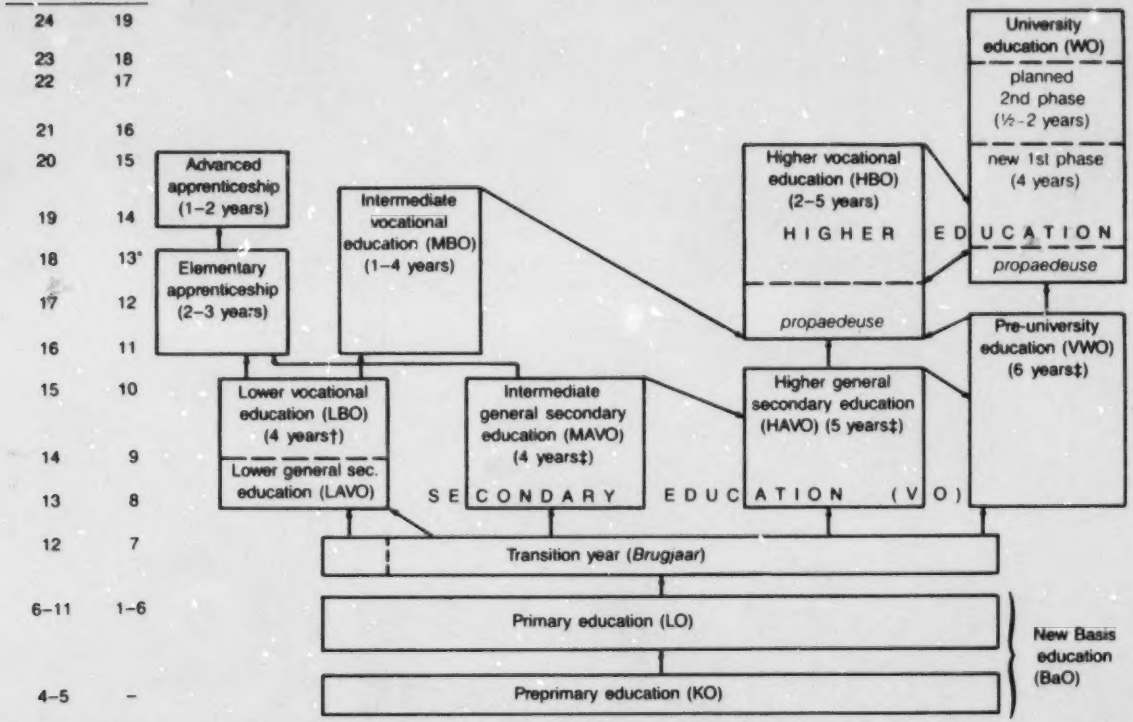
Because Parliament has the authority to centrally regulate the Dutch educational system, sweeping changes in structure and terminology can and do occur from time to time. Table 1.2 gives a graphic representation of the present system. The remainder of this section describes the broad features of that system with specific reference to the most important changes currently underway. See the appropriate chapters for a discussion of the different educational levels and sectors.

Dutch children generally begin their education at age 4 in tuition-free preprimary schools. Fulltime compulsory education begins at age 6 and continues through age 16. The first six years normally are spent in primary education. Beginning with the 1985 school year, preprimary education and primary education will be integrated into a single system of basis or foundation education (BaO). The only obvious change in the curriculum will be the mandatory introduction of English into all but the lower grades. The entire program will nominally last seven or eight years depending upon the child's age and/or maturity on entry.

Secondary education is broadly divided into general and vocational sectors. In the general sector, pre-university education (VWO) offers standard six-year programs (grades 7-12); higher general secondary education (HAVO) is five years in length (grades 7-11). Other secondary programs include intermediate general secondary education (MAVO), a four-year program (grades 7-10); and lower general secondary education (LAVO), which is presently offered as the first two years of lower vocational programs. Vocational programs at the secondary level, aimed primarily at preparing the student for employment, fall into two categories: 1) lower vocational education (LBO), a four-year program (grades 7-10); and 2) intermediate vocational education (MBO, grades 11-12, 13, or 14).

Higher education currently consists of two distinct sectors: higher vocational education (HBO) and university education (WO). The HBO program has now been included in the draft of a law which proposes to regulate university and higher vocational education as parts of a new comprehensive system of higher education. In a few areas, such as agriculture and engineering, applied HBO programs parallel the theoretical offerings of the universities, blurring the distinction between the two. Until fall of 1982 there was no fixed period of study for a first university degree (minimally 5-7 years). While the degrees remain the same, the New University Act, which went into effect in the fall of 1982, has set the standard length of all first degree programs at four years. A "second phase" of study (to become operational in 1986) has been defined which will offer those

Table 1.2. The Educational System of the Netherlands, 1983



SOURCE: Based on information supplied by the Dutch Ministry of Education and Science.

*Special education (BuO) spans ages 6–18, grades 1-13; †including LAVO and transition year; ‡including transition year.

BEST COPY AVAILABLE

holding appropriate first degrees such programs as secondary teacher education, research training, and clinical training in the medical professions.

Not represented in Tables 1.2 and 1.3 is the international education (IE) sector, serving primarily underdeveloped countries, that falls under the jurisdiction of the Netherlands Universities Foundation for International Cooperation (NUFFIC). The IE programs, highly specialized, frequently of an applied nature, and designed to meet the specific needs of the developing countries they serve, lead to diplomas or certificates that bear no specific relationship to the rest of the Dutch system of education for permanent residents. Several grant master's degrees modeled after those in Anglo-Saxon educational systems, and one program leads to a Ph.D.

See Table 1.3 for enrollment figures for the various levels and sectors of Dutch education in 1982-83.

Table 1.3. **Enrollments in Dutch Education, 1982-83**

Education	Totals	Males	Females
Preprimary Education (KO)	396,500	203,800	192,700
Primary Education (LO)	1,205,700	610,600	595,100
Special Education (BuO)	96,000	66,000	30,000
Gen. Secondary Education (VWO/MAVO/HAVO)	836,215	395,567	440,648
Lower Vocational Education (LBO)	404,728	244,962	159,766
Intermediate Vocational Education (MBO)	206,118	112,088	94,030
Higher Vocational Education (HBO)	139,391	79,880	59,511
University Education (WO)	153,100	102,500	50,600
Higher Theological Schools	1,634	1,119	515
Nijenrode, Netherlands School of Business	588	472	116
Other Higher Education	1,253	1,210	43

SOURCE: Based on figures furnished by the Dutch Central Bureau of Statistics.

Chapter 2

Preprimary, Primary, and Special Education

Background

Although national regulation of primary education dates back to the early 19th century, the present system emerged as a result of the 1917 Dutch constitutional amendment guaranteeing equal funding for qualifying private and public institutions, and the 1920 Primary Education Act which established the broad features of curriculum and institutional organization. Formal regulation of preprimary education in the Netherlands began in 1955 with the Preprimary Education Act, which extended the privilege of attending nursery school to all children turning 4 by October 1 of a given year. The current structure of special education evolved from the 1920 Primary Act, which is also the legal basis for the most recent changes in the definitions and regulations contained in the Royal Special Education Decree of 1967.

Until 1968, when the Secondary Education Act of 1963 was implemented, the Primary Act governed primary education (*lager onderwijs*/LO, or *gewoon lager onderwijs*/GLO), grades 1 to 6; continued primary education (*voortgezet gewoon lager onderwijs*/VGLO), grades 7 and 8; and extended primary education (*uitgebreid lager onderwijs*/ULO, more commonly known as *meer uitgebreid lager onderwijs*/MULO), grades 7 to 9 or 10. With the implementation of the Secondary Act, VGLO in effect became lower general secondary education (*lager algemeen voortgezet onderwijs*/LAVO), now usually only found as a component of lower vocational programs. Similarly the MULO program was for all practical purposes replaced by intermediate general secondary education (*middelbaar algemeen voortgezet onderwijs*/MAVO). The LAVO and MAVO programs are discussed further in Chapter 3.

Both private and public institutions offering preprimary, primary, and special education are fully state supported and free to all children of the appropriate age group. There are both nondenominational and denominational institutions among the private schools. The most common are the schools operated by lay groups representing the Catholic and the Dutch Reformed churches, or by the churches themselves. Other private schools have been founded based on an instructional philosophy, such as that practiced by the Dalton or Montessori schools. Altogether there were nearly four hundred thousand children enrolled in nursery schools and about 1.3 million in primary schools (including special education) in the 1982-83 academic year.

Dutch is the official language of instruction, although there are some private schools offering instruction in other languages. In the province of Friesland,

where the distinctly different but related language, Frisian, is spoken, bilingual (*tweetalig*) education in the first two grades has been practiced on a wide scale since 1975. The instruction of other linguistic minorities in their native language for certain portions of the program at state-supported primary schools will be officially sanctioned beginning in 1985 on the basis of the New 1981 Primary Education Act. However, this will not diminish the need for a thorough mastery of Dutch, which remains the official language of instruction beyond primary school and is a required examination subject for all secondary school certificates.

The New Primary Act, discussed later in greater detail, will also integrate preprimary and primary education beginning in 1985. A further law is in the planning stages which, if adopted, would extend primary education by three further years, i.e., through what is now grade 9, the point through which it was originally defined by the 1920 Primary Act.

Preprimary Education

Preprimary education (*kleuteronderwijs*/KO), also referred to as nursery school (*kleuterschool*) or kindergarten, is available to all children between the ages 4 and 6. With special permission, if deemed necessary, attendance may be extended to the maximum age of 8. About 96% of all four-year-olds and about 99% of all five-year-olds are reported attending the free noncompulsory nursery schools. Under the watchful eye of trained personnel the children develop social and communication skills, participate in structured physical activities including games, exercise sessions, drawing and modeling, are exposed to oral literature and music, and, depending on individual readiness, begin work with numbers and letters. The focus is on general development and fostering readiness for further education. The children are supervised and encouraged, but not formally evaluated at this level nor is there presently a formal curriculum. The calendar followed by preprimary schools is essentially the same as that given in the following section for the primary schools, although school days may be shorter. Only 660 hours of instruction annually is prescribed by the Ministry of Education and Science for preprimary schools.

Primary Education

Primary (or elementary) education (*lager onderwijs*/LO) is compulsory for all children living in the Netherlands who reach age 6 before May 1 of a given year and is available to those who reach age 6 before October 1. It extends, as defined in Dutch law, from the first grade through the sixth and is free to all pupils, although some school boards ask parents for a modest contribution. Its objectives are preparation for daily life and for further education. These objectives are reflected in the curriculum which emphasizes basic skills and broadly based general knowledge. The curriculum is prescribed to a large extent by the Ministry of Education and Science and includes arithmetic; crafts; drawing & painting; Dutch reading, writing, & language; geography; history; musical expression;

nature study (i.e., basic natural sciences); needlework (for girls); and physical education. Optionally, many schools presently introduce foreign languages, usually English, French or German, and private denominational schools generally include religious instruction in the curriculum. Text and exercise books are furnished by the schools.

A minimum of 880 hours of instruction in each of the first two years and at least 1000 hours of instruction every year thereafter is required by law in the primary schools. Students attend school five hours a day every weekday except Wednesday when pupils get the afternoon off. Typically school begins at 9:15 A.M. and goes until 12:15 P.M., when the children are released for lunch. Afternoon sessions generally run from 2 to 4 o'clock. The school year begins in mid-August and goes to the end of June, allowing a six-week summer break. There are also two-week breaks at Christmas and Easter, respectively, one-week breaks in February and October, a couple of days off at Whitsuntide, and several one-day holidays.

Teachers are civil servants and paid directly by the state. Class sizes average about 34, and the maximum size permitted by law is 45.

Since pupils who have progressed normally still face an additional four years of compulsory education, no formal diploma is issued upon successful completion of the sixth grade; instead there is a final report prepared by the principal. This report, based on the pupil's academic achievement in primary school and in some cases also on achievement tests, recommends the type of secondary education that appears best suited to the individual's abilities and inclinations. For many pupils, the placement recommended after completing grade 6 may well decide the future, at least with respect to the kind of employment opportunities for which the different secondary streams prepare. However, limited opportunities for lateral changes in stream are offered after grade 7, the transition class or year (*brugklas* or *brugjaar*).

The grading system recommended by the Ministry of Education and Science is discussed in detail in Chapter 9.

The New *Basisschool*

The 1981 Primary Education Act represents above all a national commitment to accommodate the natural and continuous development of the individual child to the greatest extent possible within the primary education system. To accomplish this, preprimary schools (*kleuterscholen*) and primary schools (*lagere scholen*) are being combined not only physically, but also in the sense of an integrated curriculum, into a new type of institution known as the basis or foundation school (*basisschool*).

Major features of the new basis or foundation education (*basisonderwijs*/BaO) curriculum are specified in the law. Included are Dutch language; English; mathematics & science; other fields, such as geography, history, nature (particularly biology), social science (particularly political science), and religious studies; activities such as crafts, drawing, language use, music, and play & movement; and sensory & physical education. Furthermore, Frisian is a mandatory subject

in the province of Friesland where Frisian is an authorized language of instruction. Other linguistic minority children may also receive instruction in their native language. Achieving an adequate level of proficiency in Dutch, the national language, is mandatory and considered an extremely important objective of the primary schools, since for all forms of further education it is the official medium of instruction. In addition to fostering knowledge, insight, creativity, and social and cultural skills, the law specifies that primary education operate on the underlying premise that the pupils are growing up in a multicultural society that reflects the increasing ethnic diversity found in the Netherlands.

Every aspect of the preprimary and primary education system from building maintenance to administration is addressed by the new law. Referred to as the "gigantic operation" by the Dutch, the law is combining the approximately 7900 preprimary and 8600 primary schools into about 8000 of the new *basisscholen*.

The formation of the new basis or foundation schools is being accompanied by the introduction of a new type of teacher training academy (*pedagogische academie basisonderwijs*/PABO). There are also courses available to those already teaching or in the process of completing the older programs aimed at providing suitable background for teaching under the new system. Both the new and the old teacher education programs are covered in Chapter 5.

Special Education

Special education (*buitengewoon onderwijs*/BuO) in the Netherlands is aimed primarily at providing primary education to the greatest extent possible to children, who for a wide range of reasons, such as physical disabilities, are not able to benefit fully from regular instruction. A few schools also have preprimary and secondary departments, but a great many pupils who complete primary education in special schools go on to regular secondary schools. There are about 980 institutions offering special education. In the 1982-83 academic year, they fell into four broad categories, serving 96,000 pupils: 1) schools for children with sensory handicaps (the blind, partially sighted, deaf, those with partial hearing, and those with serious speech impairments); 2) schools for the physically handicapped, institutions attached to convalescent homes, and schools for delicate and epileptic children; 3) schools for retarded children and for those with learning disabilities; 4) schools for the socially disadvantaged, such as the children of migratory workers, those in residential child care institutions, children with learning and behavioral problems, and severely maladjusted children. There is some feeling that some of these pupils could be better served if allowances were made for them at regular schools; the government predicts that under the new Primary Education Act there will in fact be greater integration of marginally disadvantaged students into the new basis or foundation school (*basisschool*).

Chapter 3

Secondary Education

Introduction

Since Dutch law requires 10 years of compulsory education, virtually every child must attend some form of secondary school beginning with grade 7. There are several different types of secondary schools, but in the broadest sense one can distinguish two important overall types: general secondary education, including pre-university education, and vocational secondary education.

General secondary programs are classified by the function they serve. Lower general secondary education (*lager algemeen voortgezet onderwijs*/LAVO), grade 7 and sometimes 8, essentially serves to prepare for lower vocational education (*lager beroepsonderwijs*/LBO), grades 8 or 9 through 10. Similarly, intermediate general secondary education (*middelbaar algemeen voortgezet onderwijs*/MAVO), grades 7 through 10, admits to intermediate vocational education (*middelbaar beroepsonderwijs*/MBO), grades 11 to 12, 13 or 14. Higher general secondary education (*hoger algemeen voortgezet onderwijs*/HAVO), grades 7 through 11, is generally sufficient for admission to programs in higher vocational education (*hoger beroepsonderwijs*/HBO), which is classified as a form of higher education (see Chapter 4). University preparatory education (*voorbereidend wetenschappelijk onderwijs*/VWO), grades 7 through 12, not only qualifies graduates for university studies, but also for admission to many higher vocational programs. Table 1.2 in Chapter 1 gives a graphic representation of the relationship of the various secondary programs to the rest of the educational system and to each other.

Usually also classified as secondary education are the *vormingsinstituten* (young workers' educational institutes), which offer nonacademic courses for young adults aimed at fostering adjustment to life situations, rather than intellectual or vocational development.

One of the most important features of the 1963 Secondary Education Act (implemented 1968) was the provision for improved articulation between the various types of secondary programs. To this end the first year, grade 7, functions as a transition year (*brugjaar*) that allows changing from one program to another; a common curriculum is offered in all grade 7 programs except those in lower vocational education (LBO) and lower general secondary education (LAVO). The LBO/LAVO seventh grade curriculum is not considered to be at the same level as that offered in the other secondary programs. This makes it extremely difficult for the students placed in the lower vocational schools to change to an institution offering general and/or university preparatory programs (i.e., MAVO, HAVO, and VWO). Students in the general and university preparatory programs, on the other hand, can transfer with relative ease from one

of these to the other, or to the LBO or LAVO program of a lower vocational institution, if it appears that such a change would better meet their needs.

In practice the transition year is most effective at institutions offering multiple programs, most commonly MAVO, HAVO, and VWO. At such institutions, known as *scholengemeenschappen* (combined schools), the final choice of a program may sometimes be delayed until the completion of grade 8. Transfer into another program at a later point is also possible, but generally with the loss of a year if the student is going to a more academically oriented stream. The four-year MAVO diploma admits to the fourth year of HAVO programs. A HAVO diploma in turn permits placement in the fifth year of appropriate VWO programs.

General Secondary Education

Lower General Secondary Education/LAVO

Lower general secondary education (*lager algemeen voortgezet onderwijs*/LAVO), grade 7 and sometimes grade 8, is currently found only at institutions offering lower vocational (LBO) programs. It consists of one or two years of general education preceding vocational instruction. The subjects taught are crafts, drawing, Dutch, history and geography, mathematics, one modern foreign language, music, nature study, physical education, and social science (in the two-year programs only). There is no comprehensive final examination nor is a diploma issued.

Grading, which is generally based on the 1-10 scale used throughout Dutch education, is discussed in detail in Chapter 9.

Intermediate General Secondary Education/MAVO

Intermediate general secondary education (*middelbaar algemeen voortgezet onderwijs*/MAVO) programs until recently were of two types: a three-year (MAVO-3) and a four-year (MAVO-4 or MAVO) program, i.e., grades 7 through 9 or 10. The longer program, which is still in operation, completes the compulsory education requirement and admits to virtually all intermediate vocational programs, as well as to the fourth year of higher general secondary schools (HAVO). The shorter program (now phased out; last pupils admitted August 1979) had been the basis for entering some intermediate vocational programs and apprenticeships. Both programs included art, business, Dutch, geography, history, mathematics, modern foreign languages (English, French, or German), science, and other subjects. The leaving certificate for the shorter program required examinations in Dutch, a foreign language and three other subjects. The examinations for the longer program include Dutch, a foreign language and four other subjects.

The 1979-80 school year heralded the first examinations that would make it possible to issue the four-year MAVO diploma at two levels, one representing the traditional level of the four-year MAVO diploma and the other an academically less demanding standard, perhaps comparable to the former three-year

diploma. The diplomas issued list not only the subjects, but which type of examination was taken. The lower level (*lager niveau*) is indicated by the letter "C" and the higher level (*hoger niveau*) by the letter "D."

The final examinations for the various types of MAVO programs consist of both institutional and national written examinations. Grading, which is generally based on the 1-10 scale used throughout Dutch education, is discussed in detail in Chapter 9.

Higher General Secondary Education/HAVO

Higher general secondary education (*hoger algemeen voortgezet onderwijs*/HAVO) spans grades 7 through 11 and is generally considered preparation for higher vocational education (*hoger beroepsonderwijs*/HBO). HAVO programs are frequently offered by institutions also offering other forms of secondary education, especially pre-university education (VWO). Unlike the lower vocational (LBO) and intermediate general secondary (MAVO) programs, which are essentially nonselective in nature and allow pupils to work at different academic levels within the same program, pupils wishing to enter the HAVO program are screened for academic aptitude. Since the expectations of pupil performance are rather high, it is not uncommon for students to repeat a year, or to drop out entirely in spite of the selectivity exercised at the time of admission.

Subjects offered in the HAVO curriculum and a weekly timetable are shown in Table 3.1. The first three years of the HAVO curriculum are the same for all pupils. In the last two years only Dutch and one of the three modern foreign languages are required. The other four examination subjects are electives selected from the academic subjects listed in the table.

To obtain the HAVO diploma, students must pass both institutional and

Table 3.1. **HAVO Sample Lesson Plan**

	Number of 50-minute lessons/week (40 weeks per year)						
Grade	7	8	9	10		11	
Required/Elective				R	E	R	E
Biology	2	2	–	–	4	–	4
Chemistry	–	–	2	–	4	–	4
Crafts	1	1	–	–	–	–	–
Drawing	2	2	2	–	4	–	4
Dutch	4	3	3	4	–	4	–
Economics I	–	–	–	–	3	–	3
Econ. II (Business Law)	–	–	–	–	5	–	5
Geography	2	2	2	–	4	–	4
History	2	3	2	–	4	–	4
Mathematics	4	3	4	–	5	–	5

(continued)

Mod. Foreign Language & Literature:							
English	3	2	3	*	†	*	†
French	3	3	3	*	†	*	†
German	–	3	3	*	†	*	†
Music	1	1	1	–	–	–	–
Physical Education	3	2	2	–	–	–	–
Physics	–	2	3	–	4	–	4
Sociology	–	–	–	–	–	2	–
Other (e.g., Relig. Instr.)	3	3	2	2	–	–	–
Req. No. of Periods	30	32	32	27–30		27–30	

Source: Based on information provided by the Ministry of Education and Science, and Edith Stein College/Katholieke Scholengemeenschap, November 1982.

*Four periods per week of one foreign language are required in the last two years.

†Four periods per week of each additional foreign language if selected as an examination (major) subject are required.

national final examinations in Dutch, a modern foreign language, and the four elective subjects. (See Appendix B, Document 2a, for a grade list for the final HAVO exam, and Documents 2b & c for an example of a HAVO diploma, front and back.) Grading, which is generally based on the 1-10 scale used throughout Dutch education, is discussed in detail in Chapter 9.

Student fees are charged for the last year of the program (i.e., after grade 10). The amount due is adjusted according to the parents' income and may not exceed 500 guilders (roughly $180) per year.

University Preparatory Education/VWO

University preparatory education (*voorbereidend wetenschappelijk onderwijs*/VWO) covers grades 7 through 12 and is offered by three different types of institutions: *gymnasia*, *athenea*, and *lycea*. In addition, the programs of all three types of institutions are offered by the *scholengemeenschappen* (combined schools), which also offer MAVO, HAVO, and, in some cases, vocational programs. The distinctions among VWO programs offered by these different institutions will be discussed further in the following paragraphs. Grading, which is generally based on the 1-10 scale used throughout Dutch education, is discussed in detail in Chapter 9. Internally, *gymnasia* traditionally employ a comparable 5-point scale on which 5 represents the best possible mark and 3 is satisfactory. However, final diploma examination results must, by law, be reported on the 10-point scale. Student fees are charged for the last two years (i.e., after grade 10). The amount due is adjusted according to the parents' income and may not exceed 500 guilders (roughly $180) per year.

The modern Dutch *gymnasium* continues the tradition of classical education, including Greek and Latin as a required part of the curriculum. After the third year, students follow either an A or B stream. The A stream stresses Greek and Latin, while the B stream allots more time to mathematics and science. However,

all four subject areas are addressed by both streams which also require crafts, Dutch, a modern foreign language (usually English, French or German), and social sciences. See Table 3.2 for more detail. For the VWO diploma, A-stream students must pass exams in five required subjects including Dutch, Greek, history, Latin, a modern foreign language; and in two elective subjects. The B-stream student is examined in Dutch, Greek or Latin, mathematics, a modern foreign language, a science, and two electives.

Table 3.2. **Gymnasium Sample Lesson Plan**

	Number of 50-minute lessons/week (40 weeks/year)												
Grade	7	8	9	10		11				12			
Stream				A	B	A		B		A		B	
Required/Elective						R	E	R	E	R	E	R	E
Biology	2	2	–	–	2	–	–	–	3	–	–	–	4
Chemistry	–	–	2	–	2	–	–	3	1	–	–	//	//
Crafts	1	–	–	–	–	–	–	–	–	–	–	–	–
Drawing	2	1	–	–	–	–	–	–	–	–	–	–	–
Dutch	4	3	3	3	3	3	–	3	–	3	–	3	–
Economics	–	–	–	–	–	§	4	–	4	§	4	–	4
Geography	2	2	2	2	–	§	3	–	3	§	3	–	3
Greek	–	–	4	5	*	6	–	*	–	6	–	*	–
History	2	2	2	2	2	§	3	–	3	§	3	§	3
Latin	–	4	3	5	*	6	–	*	–	6	–	*	–
Mathematics I	4	3	3	3	3	–	4	4	–	–	4	4	–
Mathematics II	–	–	–	–	2	–	–	–	3	–	–	–	3
Modern Foreign Languages:													
English	3	2	2	2	2	†	‡	†	‡	†	‡	†	‡
French	3	3	2	2	2	†	‡	†	‡	†	‡	†	‡
German	–	3	3	2	2	†	‡	†	‡	†	‡	†	‡
Music	1	1	–	–	–	–	–	–	–	–	–	–	–
Physical Ed.	3	2	2	2	2	2	–	2	–	2	–	2	–
Physics	–	2	3	–	3	–	–	4	–	–	–	//	//
Sociology	–	–	–	–	–	–	–	–	–	2	–	2	–
Other (e.g., Relig. Instr.)	3	1	1	2	2	2	–	2	–	–	–	–	–
Req. No. of Periods	30	31	32	30	32	30–33		31–34		31–33		30–32	

Source: Based on information provided by the Ministry of Education and Science, and Edith Stein College/Katholieke Scholengemeenschap, November 1982.

*Either Latin or Greek required in B Stream; in Year 10, 5 lessons/week; in Years 11 and 12, 6 lessons/week.

†Three periods of one modern foreign language required in both streams.

‡Three periods each of one or two other modern foreign languages if selected as exam subject.

§Three or four periods of economics, geography, or history required in A Stream, Years 11 and 12.

//Four periods of either chemistry or physics required in B Stream and four periods in the remaining subjects may be taken if selected as an exam subject.

The *atheneum* stresses modern foreign languages and the social sciences, but offers a curriculum similar to that of the *gymnasium* in many respects except for classical languages which generally are not offered. See Table 3.3 for more detail. The *atheneum*, after the third year, is also divided into an A and B stream. The A

Table 3.3. ***Atheneum* Sample Lesson Plan**

	Number of 50-minute lessons/week (40 weeks/year)												
Grade	7	8	9	10		11				12			
Stream				A	B	A		B		A		B	
Required/Elective						R	E	R	E	R	E	R	E
Biology	2	2	–	–	2	–	–	–	3	–	–	#	#
Chemistry	–	–	2	–	2	–	–	3	1	–	–	//	#
Crafts	1	1	1	–	–	–	–	–	–	–	–	–	–
Drawing	2	2	2	1–2	1–2	–	4	–	4	–	4	–	4
Dutch	4	3	3	3	3	3	–	3	–	3	–	3	–
Economics I	–	–	–	–	–	4	–	–	4	4	–	–	4
Economics II	–	–	–	3	–	–	4	–	–	–	4	–	–
Geography	2	2	2	2	2	§	§	–	3	§	§	–	3
History	2	3	2	4	2	§	§	–	3	§	§	–	3
Latin*	–	(4)	(3)	(5)	(5)	–	(6)	–	(6)	–	(6)	–	(6)
Mathematics I	4	3	3	3	3	–	4	4	–	–	4	4	–
Mathematics II	–	–	–	–	2	–	–	–	3	–	–	–	3
Modern Foreign Languages:													
English	3	2	2	2	2	‡	‡	‡	‡	†	†	†	†
French	3	3	2	2	2	‡	‡	‡	‡	†	†	†	†
German	–	3	3	2	2	‡	‡	‡	‡	†	†	†	†
Music	1	1	1	–	–	–	–	–	–	–	–	–	–
Physical Ed.	3	2	2	2	2	2	–	2	–	2	–	2	–
Physics	–	2	3	–	3	–	–	4	–	–	–	//	#
Sociology	–	–	–	–	–	–	–	–	–	2	–	2	–
Other (e.g., Relig. Instr.)	3	1	3	3	3	2	–	2	–	2	–	2	–
Req. No. of Periods	30	30	31	28	32	26–28		28–32		26–28		28–30	

SOURCE: Based on information provided by the Ministry of Education and Science, and Edith Stein College/ Katholieke Scholengemeenschap, November 1982.

*Only available at some institutions.

†Three periods of one modern foreign language required in Year 12, Streams A and B; the remaining two languages may be taken as electives.

‡Three periods each of two modern foreign languages required in Year 11, Streams A and B; the remaining language may be taken as an elective.

§Three periods of geography or history required in Stream A, Years 11 and 12; three further periods may be taken as electives.

//Four periods each of two natural sciences required in Stream B, Year 12.

#Four periods of the remaining natural science may be taken as electives in Stream B, Year 12.

stream concentrates on social studies and economics and the B stream on mathematics and science. VWO diploma candidates in the A stream sit for examinations in Dutch, economics, geography, history, a modern foreign language plus two electives; while those in the B stream sit for Dutch, mathematics, a modern foreign language, two sciences, and two electives.

The *lyceum* offers both the *gymnasium* and *atheneum* curriculums with a common first year, making it easier for students to change their programs. Furthermore, since 1973, most VWO institutions have offered pupils the alternative of freely choosing four or five subjects in addition to Dutch and one modern foreign language instead of following a set curriculum. One classical language must also be included in the programs of the *gymnasia*. In 1980 at least 50% of all those in pre-university education selected this new free-choice option.

None of the curriculums of the three types of institutions is limited to examination subjects. Arts, physical education, social studies and other creative subjects are required of all pupils. In addition, depending on their resources, institutions may offer such languages as Hebrew, Russian, Spanish or Esperanto; philosophy and/or religious studies. (See Appendix B, Documents 3a, b, & c for examples of a VWO grade list for the final exam, and a VWO diploma.)

Vocational Education

Lower Vocational Education/LBO

Lower vocational education (*lager beroepsonderwijs*/LBO) programs, grades 7 through 10, are generally four years in length. It should be kept in mind, however, that grade 7 is the transition year (*brugjaar*) and the curriculum therefore deliberately general. Furthermore, the second year also is devoted mostly to general studies, and LBO programs often encompass a full two-year lower general secondary education (LAVO) program (described earlier in this chapter). LBO programs fall into five main categories: agricultural; economic & administrative; home economics; retailers'; and technical. The diplomas awarded correspond in name to these categories and are awarded on the basis of final examinations supervised by the Ministry of Education and Science. However, LBO programs are really of a preparatory nature and usually are followed by further training. Graduates may have access to intermediate vocational (MBO) training, preparatory courses for technical teacher training, or the apprenticeship system.

Varying ability levels are accommodated by providing a, b and c courses. Courses at the c-level are the most demanding. Pupils who have taken and passed at least three appropriate courses at the c-level are qualified to enter an intermediate vocational (MBO) school for further instruction in the same field or a related field or a preparatory program for higher vocational education (VHBO). Those who have mostly b-level courses can generally practice their specialty after some further vocational training, such as an apprenticeship or on-the-job training. The a-level courses are the least difficult and are not actually aimed at qualifying the pupil for work, although passing a course at that level is sufficient

to have it count for the diploma. Pupils may, and usually do, have various combinations of a-, b-, and c-level courses, reflecting their different interests, abilities, and plans for the future. Grading, which is generally based on the 1-10 scale used throughout Dutch education, is discussed in detail in Chapter 9. The various types of lower vocational (LBO) programs are described below.

Agricultural Education. The two-year general studies program in lower agricultural education (*lager landbouwonderwijs*/LLO) is followed by two years' specialization within the areas of agriculture, agricultural mechanics, food technology, or horticulture. Individual agricultural education (*individueel lager landbouwonderwijs*/ILO) is provided for those pupils requiring special attention.

Economic and Administrative Education. Lower economic and administrative education (*lager economisch en administratief onderwijs*/LEAO) is essentially business education of a more general type than the lower retailers' (LMO) program discussed below. Starting in the second year, the general education component is enriched by the addition of a second foreign language, a social science course, and typing. Dutch language instruction at this stage may also include business correspondence, and the reading material may serve as an orientation to various business topics. In the last two years, the emphasis is on vocational subjects, such as business administration, business law, business mathematics, microeconomics, office & shop practice, and trade organization & techniques.

Home Economics Education. Lower home economics education (*lager huishoud- en nijverheidsonderwijs*/LHNO) enrolls about 80% of all girls enrolled in lower vocational institutions; only 2.5% of the pupils in such programs are males. Specialization, as in other LBO programs, starts in the third year and prepares pupils for a variety of service and domestic science-related vocations, such as employment with the food and sanitation services of hospitals, orphanages and convalescent homes. Those with diplomas that include at least two subjects passed at the c-level can be admitted to intermediate domestic science (MHNO) and socio-pedagogic (MSPO) institutions, while three c-level passes are needed to enter the generalized MBO program which prepares for higher vocational education (*vooropleiding hoger beroepsonderwijs*/VHBO). Individual home economics education (*individueel huishoud- en nijverheidsonderwijs*/IHNO) is offered to individuals with social or learning problems.

Retailers' Education. Beyond general education courses, the approximately 40 schools offering lower retailers' education (*lager middenstandsonderwijs*/LMO) teach business practices (*handelskennis*); knowledge of products (*warenkennis*); sales promotion, including advertising theory; typing; and practical subjects including merchandise stocking and commercial art. In addition, pupils receive vocational orientation in the work place by spending a half day per week during the third or fourth year observing and participating in actual "shop life" (*bedrijfsleven*). Pupils with appropriate c-level passes may go on to intermediate retailers' (MMO) schools.

Technical Education. Lower technical education (*lager technisch onderwijs*/LTO) enrolls the most pupils of those in vocational education at this level. Lower technical schools (*lagere technische scholen*/LTS) offer specialization after the first two years in the following areas: auto mechanics (*motorvoertuigentechniek*), construction technology (*bouwtechniek*), drafting technology (*grafische techniek*), electrical technology (*elektrotechniek*), food technology (*consumptieve technieken*), installation technology (*installatietechniek*), and mechanical technology (*mechanische techniek*). Further specialization, such as carpentry for those in construction, or baking for those in food technology, is possible in the fourth year. An examination in six subjects is required for the diploma. For those with learning or social difficulties, comparable instruction is given individually (or in small groups). This is known as individual technical education (*individueel technisch onderwijs*/ITO).

Lower technical education usually also includes lower nautical education (*lager nautisch onderwijs*), although it is sometimes referred to as a separate category. Instruction is divided along the lines of anticipated future specializations dealing with the high seas, harbors, and inland waterways. The schools offering these programs offer the same types of general courses available at lower technical schools.

Intermediate Vocational Education/MBO

Intermediate vocational education (*middelbaar beroepsonderwijs*/MBO) generally extends from grade 11 through grade 13. Programs tend to be three years in length, although they range in length from one to four years. Admission is based on an appropriate lower vocational (LBO) diploma or an intermediate general secondary (MAVO) diploma. Unlike lower vocational training, intermediate programs do prepare students for full entry into the work force in many cases, and the diplomas may also entitle the holders to admission to higher vocational programs, when suitable advanced programs are available and the student has passed examinations in the necessary prerequisite subjects. Because a major function of MBO programs is to prepare students for responsible employment in a particular field immediately upon graduation, the program content in some instances is likely to be comparable to that of basic vocational programs offered by U.S. community colleges.

Instruction in some general subjects, including Dutch and physical education, is required by law, and adequate preparation in the theoretical aspects of the major is considered particularly important for those students planning to go on to higher vocational (HBO) programs. Teachers have essentially the same type of training as for the lower vocational schools. Grading, which is generally based on the 1-10 scale used throughout Dutch education, is discussed in detail in Chapter 9.

To the categories of programs found in lower vocational education are added socio-pedagogic education and preprimary teacher training. The narrower specialization required when training to perform a specific job is reflected by an increased number of specialized programs found in the MBO sector. In addition to the intermediate technical schools, technical education at this level includes the training of laboratory personnel, nautical education, and preparatory courses for vocational teacher training. Nautical education includes advanced versions of the lower level (LBO) programs, and also covers the basic training of ships' engineers, and of radar and radio operators. Socio-pedagogic education incorporates the training of nannies, social workers and school coaches. Other forms of specialized training at this level include that for lower level police officers, noncommissioned officers, midwives, and surveyors. More detailed descriptions of the major program types follow.

Agricultural Education. Intermediate agricultural education (*middelbaar landbouwonderwijs*/MLO) includes a variety of programs ranging from two to four years in length. There are programs in the fields of agricultural products processing and agricultural supply, in animal husbandry, crop production, dairy farming, and farm management. Admission is based on either having passed appropriate c-level courses and obtained the lower agricultural education (LLO) diploma, or on having a four-year MAVO diploma. Those who

complete at least a three-year MLO program (*a-cursus*) may be admitted to higher agricultural education. The two-year program (*b-cursus*) does not give access to higher education.

Economic and Administrative Education. Intermediate economic and administrative education (*middelbaar economisch en administratief onderwijs*/MEAO) can best be described as general business education and is offered by approximately 61 institutions throughout the Netherlands in fulltime day programs. There are also about 30 evening programs scattered over the country. The fulltime day program is three years in length.

After a common first year there are five different specializations or options available to the students, depending on their desire and ability. The administrative option has a core consisting of Dutch, law, a modern foreign language, and social science, and permits two electives. The commerical specialization requires commercial economics, Dutch, mathematics, and two modern foreign languages, and also allows two electives. The secretarial option includes Dutch, two modern foreign languages, typing, and two electives. The management specialization requires business administration, business mathematics, Dutch, microeconomics, a modern foreign language, and two electives. Finally, there is a so-called "free option," which requires only Dutch and a modern foreign language and leaves the student at liberty to select the remaining four subjects.

As with other forms of intermediate vocational education, these programs are open to those who have earned either the MAVO diploma or the lower economic and administrative education (LEAO) diploma with appropriate subjects passed at the c-level. Students who earn the MEAO diploma may be admitted to the following higher vocational programs: higher economic and administrative education (HEAO), higher hotel schools, the Institute for Higher Recreation and Tourism Education, to certain state-approved secondary teacher training programs, and to the new teacher training institutes.

Higher Vocational Preparatory Education. A unique type of MBO program which does not prepare for a particular vocation is the preparatory course for higher vocational education (*vooropleiding hoger beroepsonderwijs*/VHBO). It is of three years' duration, and has in the recent past been associated only with intermediate home economics (MHNO) programs which are being phased out and combined with intermediate socio-pedagogical (MSPO) programs, as described below. It offers a broad general secondary education comparable in level to the HAVO program. The VHBO program is the only option offered by intermediate vocational (MBO) institutes that provides broad access to a wide variety of higher vocational (HBO) programs, depending on the examination subjects the student has selected. As such, the VHBO program is also the only one that provides lower vocational (LBO) graduates with an opportunity to prepare for higher vocational (HBO) education in fields unrelated to the one in which they hold their LBO diploma.

New Combination—Home Economics and Socio-Pedagogical Education. Intermediate home economics education (*middelbaar huishoud- en nijverheidsonderwijs*/MHNO) and intermediate socio-pedagogical education (*middelbaar sociaal-pedagogisch onderwijs*/MSPO) are being combined under the new system. The new-style combination of home economics and socio-pedagogical programs (MHNO/MSPO *nieuwe stijl*) will result in the consolidation and restructuring of existing programs in both areas into eight (or nine) types of intermediate vocational programs (*middelbare beroepsopleiding*/MBO). Program development for the new combination began with the 1979-80 school year. The old programs for the training of activity supervisors, nurses, and sport and movement instructors already have been discontinued, and all of the older courses were to be phased out beginning in 1983, at the latest, with the introduction of the new programs.

The English names for the new programs, as well as the Dutch terms and abbreviations identifying these programs in the official literature and on the diplomas issued, follow: 1) activity supervisors' training (MBO-*activiteitenbegeleiding* or MBO-ab), replacing the

older programs for occupational and work therapists; 2) care-worker training (MBO-*verzorgende* or MBO-vz), encompassing earlier programs that trained care workers for families and the elderly; 3) domestic-worker training (MBO-*huishoudtechnische sector* or MBO-ht), consolidating previous home economics and domestic science programs; 4) fashion and clothing training (MBO-*mode en kleding* or MBO-mk), replacing the former dressmaking and fashion design programs; 5) health-care worker training (MBO-*assistente in de gezondheidszorg* or MBO-ag), encompassing the former programs offered for the training of pharmaceutical, medical and dental assistants, and now including nurses' training (MBO-*verpleegkundigen* or MBO-v, also MBO-vp) at the intermediate vocational level (see Chapter 6 for an overview of nurses' training); 6) two types of social guidance training (MBO-*sociaal-agogisch* or MBO-sa) programs, MBO-sa 1, encompassing the previous labor and personnel policy, and social services programs, MBO-sa 2, replacing the programs for the training of institutional social workers, and youth and cultural workers; 7) sport and movement training (MBO-*sport en beweging* or MBO-sb), replacing the former school coaches' training programs.

Home Economics Education—Old Style. Intermediate home economics education (*middelbaar huishoud- en nijverheidsonderwijs*/MHNO), now combined with socio-pedagogical education and described above, encompassed programs of one-to-three years in length. The *vormingklas* ([general] education class) is a one-year program consisting of general and home economics classes for girls coming from general secondary programs. One- or two-year general introductory courses led to a certificate after which students could enter in-service training programs in the health and welfare fields (*interim algemene shakelopleiding*/INAS). Child care and youth work programs prepared students for positions in private residences, day care centers, and institutions. The two-year basic dressmaking course included one month of practical training in the second year. Graduates could pursue a further year-long course in fashion design at the same institutions that offered the basic course. Graduates of both programs found employment in the clothing industry. The vocational home economics courses prepared students to oversee the domestic affairs of large institutions. Some MHNO schools also offered part-time programs to train pharmaceutical, medical, and dental assistants.

Socio-Pedagogical Education—Old Style. Intermediate socio-pedagogical education (*middelbaar sociaal-pedagogisch onderwijs*/MSPO) offered training for cultural workers, care workers for the elderly, family-care workers, nurses, occupational therapists, personnel workers, social service workers, social workers, sports instructors, work therapists, and youth leaders. Fulltime programs generally were two years in length, and part-time programs, three. These programs, along with intermediate home economics training, have been reorganized into the "new combination" described above.

Preprimary Teacher Training. The training of preprimary or nursery school teachers (*kleuterleidsters opleidingsschool*/KO), which is also considered part of the intermediate vocational (MBO) sector, is discussed in Chapter 5.

Retailers' Education. Intermediate retailers' education (*middelbaar middenstandsonderwijs*/MMO) is directed toward giving students both a practical and theoretical foundation in the management of small and medium-sized retail establishments and legally entitles holders of the diploma to operate their own businesses. (In the Netherlands an individual must either possess the proper educational credentials or pass separate licensing examinations in order to operate a business.)

The general program is three years in length, and is open to those possessing the lower retailers' (LMO) diploma with appropriate passes in c-level courses, as well as to those with the MAVO diploma. Holders of MMO diplomas may be admitted to higher vocational education (HBO) programs including higher economic and administrative education

(HEAO) programs, the social academies, the higher hotel schools, and the Institute for Higher Recreation and Tourism Education.

Retailers' education (MMO) also includes a number of specialized programs and courses. The intermediate hotel-restaurant-cafe school (*middelbare horecaschool*) offers a four-year program in the management of such establishments. A four-year program, of which the third year is spent in practical training, is also offered by the butchers' school (*slagersvakschool*), which similarly trains graduates to operate their own shops. All phases of meat and meat product production and packaging are covered. The intermediate textile trade school (*middelbare textielhandelschool*) offers a two-year program for those wishing to enter the retail textile trade. There are also specialized retail trade courses in the areas of baking, bookstore management, commercial art, fish trade, grocery store management, hairdressing, milk and dairy products trade, opticians' shop management, and poultry trade.

Technical Education. Intermediate technical education (*middelbaar technisch onderwijs*/MTO) includes intermediate technical schools (*middelbare technische scholen*/MTS), institutions specializing in the training of laboratory personnel (*middelbaar laboratorium onderwijs*/MLO), and those offering nautical education (*middelbaar nautisch onderwijs*).

The approximately 75 intermediate technical schools (MTS) in the Netherlands offer a variety of specialized four-year programs. Institutions may offer a single specialty or be divided along departmental lines. The following areas of study are available: aeronautical technology (*luchtvaarttechniek*), automotive technology (*motorvoertuigentechniek*), civil engineering technology (*weg- en waterbouwkunde*), electrical technology (*elektrotechniek*), electronics (*elektronica*), mechanical engineering technology (*werktuigkunde*), precision mechanical technology (*fijnmechanische techniek*), and shipbuilding (*scheepsbouwkunde*). The third year of these four-year programs is generally devoted to practical training. (See Documents 4a and b in Appendix B for an MTO periodic grade report and its reverse side. Document 4c is an MTO diploma.) Standards and the major curricular and structural features of all programs, as well as the final examinations, are regulated by the Ministry of Education and Science. In addition, further aspects of program structure and content are coordinated by the Association of Intermediate Technical Schools (Vereiniging van Middelbare Technische Scholen), which also addresses other questions of common concern such as job prospects for graduates and meeting the needs of industry.

Admission to MTO programs is on the basis of the MAVO diploma or the lower technical school (LTS) diploma. LTS graduates must have passed at least three c-level subjects including a modern foreign language (English, French, or German), mathematics, and a science, and at least three b-level subjects. Intermediate technical school (MTS) graduates have the opportunity of going on to higher technical schools (HTS).

Intermediate laboratory education (*middelbaar laboratorium onderwijs*/MLO) includes a four-year fulltime theoretical (MLO-t) course and a two and one-half year practical course (MLO-p). The four-year laboratory program includes an internship in the third year and gives access to higher laboratory education.

Intermediate nautical (*middelbaar nautisch onderwijs*) education consists of two-year courses that provide the academic qualifications the student needs to be eligible for the positions of mate, ship's engineer, or even captain on coastal trading vessels, tugs, and deep sea fishing vessels.

Other Forms of Secondary Education

The *Middenschool* Experiment. In 1973 the Dutch government announced plans to begin an experimental form of secondary education for pupils from 12 to 15 or 16 years of age that would attempt to overcome some of the problems associated with early streaming. Since

the late 1970s the *middenschool* (literally "middle school") has on a small scale offered a comprehensive secondary program, including general education and limited vocational instruction. The *middenschool*'s integrated curriculum is intended to provide broad opportunities for its graduates, ranging from continuing in a university preparatory program to entering an apprenticeship, depending on the students' progress, performance, and wishes. As a result of the 1982 Dutch national elections, the *middenschool* was continued as an experimental form of secondary education. No steps have been taken for its adoption as a regular program paralleling existing forms of secondary education; nor do present plans call for it to replace existing programs. Nevertheless, a modest political shift could easily result in either of these possibilities in the future.

Apprenticeship. Apprenticeships may be viewed as alternatives to intermediate vocational education, especially since, in terms of age, the eligibility to begin such training coincides with completion of fulltime compulsory education and the typical age at which lower vocational and MAVO programs are completed. Pupils do in fact frequently enter apprenticeship schemes after graduating from lower vocational schools or MAVO programs, although it is possible to begin an apprenticeship up to the age of 27.

The 1968 revision of the 1919 Apprenticeship Act gives the Ministry of Education and Science and the Ministry of Agriculture and Fisheries the authority to regulate apprenticeship programs. Under the scrutiny of the Ministries, regional and national boards determine the programs of practical training which must be followed by all establishments offering a particular type of training. In addition, all trainees must participate in supplementary formal classes offered at least one day a week or in the evening, which provide a theoretical background appropriate to the field. These classes are available through special departments of lower vocational (LBO) schools or, increasingly, through separate institutions (*streekscholen*) that exist solely for that purpose. The first or elementary phase of an apprenticeship lasts a minimum of two years and culminates in practical and theoretical examinations, leading to the Diploma of Primary Practical Training (*Diploma van de Primaire Praktijkopleiding*). Those who do not pass the theoretical examinations, but succeed in the practical, may be awarded a certificate of practical skill. In some fields a second or advanced phase of training, at least one year in length, is possible.

Vormingsinstituten. Young workers' educational institutes (*vormingsinstituten*) are not schools in the formal sense, as neither intellectual achievement nor vocational training is among their objectives. Instead, they strive to help young people who have completed their fulltime compulsory education to adjust to everyday life through part-time courses that explore such areas as employment, leisure, marriage, etc. No diplomas or certificates are awarded, and records of attendance or participation, if provided, should not be viewed as academic credentials.

Short Intermediate Vocational Education. Short intermediate vocational education (*kort middelbaar beroepsonderwijs*/KMBO) is characterized by an innovative approach which places personal development and social adjustment on an equal basis with formal education and vocational training. These programs, with a maximum length of three years, were first introduced in August 1979 in the form of 21 pilot projects around the country. The practical skill levels of KMBO graduates are considered comparable to those of individuals who have completed the first phase of an apprenticeship in the same field. Graduates are eligible to enter the second phase of an apprenticeship or to pursue related intermediate vocational (MBO) courses.

Participatory Education. Participatory education (*participatie-onderwijs*) is a term used to refer to a specific example of the KMBO concept. It designates an experimental integration of the life-adjustment classes of the young workers' institutes (*vormingsinstituten*) and the theoretical training that must accompany every apprenticeship. There were five institutions offering *participatie-onderwijs* in 1981.

Historical Notes on Secondary Education

The 1963 Secondary Education Act (implemented 1968) caused a number of changes in terminology and sometimes in the programs themselves. The predecessor of the present LAVO program was known as continued ordinary primary education (*voortgezet gewoon lager onderwijs*/VGLO). Like LAVO, VGLO consisted of two years (grades 7 and 8) of general education, but unlike LAVO, it was mainly for pupils not expected to continue their formal education. Corresponding to the present MAVO program, both in terms of the age group served and the level of education represented, was extended primary education (*uitgebreid lager onderwijs*/ULO, also referred to as *meer uitgebreid lager onderwijs*/MULO).

Prior to 1968, VHMO (*voorbereidend hoger en middelbaar onderwijs*), preparatory higher and intermediate education, was the overriding designation for what is today university preparatory (VWO) and higher general secondary (HAVO) education. Included in this category were the *gymnasia*, which have remained much the same, the HBS, *lycea*, MMS, and HDS. In some respects, the *hogere burger school*/HBS resembled the present HAVO program. However, in spite of the fact that it basically offered a five-year program, successful graduates were guaranteed access to Dutch universities; from this perspective it corresponds more closely to the modern six-year *atheneum*. The pre-1968 *lycea* offered both *gymnasium* and HBS programs. The intermediate girls' school (*middelbare meisjes school*/MMS) had a function and curriculum similar to the present HAVO program. The four-year commercial day schools (*handelsdagscholen*/HDS) are the forerunners of modern general business programs at the secondary level, i.e., intermediate economic and administrative education (MEAO).

Though the name remains the same, prior to 1968 the *lagere technische school*/LTS offered primarily two-year programs (grades 7 and 8), as opposed to the four-year programs (grades 7 to 10) offered at present. Forerunner, in some respects, of the intermediate technical school (MTS) of today was the extended technical school (*uitgebreid technische school*/UTS); however, the UTS (minimally, grades 9 to 11) admitted students with as few as eight years of previous formal education, while the modern MTS (grades 11 to 14) usually requires 10 years of formal education for admission. The UTS program was also shorter, three years including a year of practical training, as opposed to the four-year program of the modern MTS. Similarly, the previous *hogere technische school*/HTS (now considered a form of higher education; see Chapter 4) required a minimum of only four years of secondary education (grade 10) for admission, while today's HTS requires at least HAVO (grade 11) for admission and admits significant numbers of MTS (grade 14) and VWO (grade 12) graduates. While the structure of HTS programs (four years, including one year of practical training) has remained much the same, the level cannot be considered equivalent. Similar relationships exist between former and present versions of other vocational programs; i.e., in general the older programs represent a lower educational level than the corresponding programs of today. For more detailed information on secondary education prior to the 1963 Secondary Education Act, consult the 1961 World Education Series volume on the Netherlands prepared by John Mostert.

Chapter 4

Higher Vocational Education

Introduction

Higher vocational education (*hoger beroepsonderwijs*/HBO) enrolled slightly less than one-half of the fulltime participants in day programs in higher education in the Netherlands in the 1982-83 academic year. Somewhat earlier figures, which include part-time and evening students, who are rare in the university sector, put enrollments in higher vocational education at substantially above one-half of the higher education total. In view of these figures it is not surprising that the Dutch government has of late been paying a great deal of attention to the higher vocational sector. Although defined together with lower levels of vocational education in the 1963 Secondary Education Act (implemented 1968), a consistent effort to establish a separate legal base for this sector has since been underway. Efforts have for the most part been in the direction of improving articulation and establishing parity with university education.

Until recently, only after graduation could those pursuing higher vocational programs hope to be admitted to related university studies, usually with little, and sometimes no, advanced standing. Currently, students may request admission to an appropriate university program after only one or two years of successful study in a higher vocational program. In addition, students may at the same time request exemption from the preliminary examination (*propaedeutisch examen*), now required after the first year of all university programs. Such requests are processed by one of seven commissions established to regulate articulation between higher vocational and university programs in the same or related fields. The transfer process between higher vocational institutes and the universities is discussed in greater detail in Chapter 7.

The Ministry of Education and Science regulates all programs except those in agriculture, which fall under the jurisdiction of the Ministry of Agriculture and Fisheries. The Higher Vocational Education Council (*Hoger Beroepsonderwijsraad*/HBO-Raad) serves as a national coordinating body among the institutions, the government and the public. It consists of one representative from each of the more than 300 institutions offering higher vocational programs. Smaller bodies coordinate the efforts of institutions offering programs in the same field. The administrative structure varies somewhat from institution to institution, being determined by the founding organization. As in the lower educational levels, there are many private schools controlled both by religious and secular organizations, as well as public institutions under national or local control, all eligible for the same measure of state support.

At the moment, higher vocational education is officially divided into the following subcategories which are discussed briefly in the sections that follow: art education (*kunstonderwijs*); higher agricultural education (*hoger landbouwonderwijs*/HLO, also known as *hoger agrarisch onderwijs*/HAO); higher economic and administrative education (*hoger economisch en administratief onderwijs*/HEAO); higher health care education (*hoger gezondheidszorg onderwijs*/HGZO); higher home economics education (*hoger huishoud- en nijverheidsonderwijs*/HHNO); higher retailers' education (*hoger middenstandsonderwijs*/HMO); higher socio-pedagogical education (*hoger sociaal-pedagogisch onderwijs*/HSPO); higher technical education (*hoger technisch onderwijs*/HTO); and teacher training (*opleiding tot onderwijsgevende*).* An extensive, but perhaps not exhaustive, list of institutions with addresses is given in Appendix A, "Institutions of Higher Education, 1983."

Partly due to tradition, but definitely also because of their legally defined roles, Dutch universities do not offer many practical or applied programs commonly found at U.S. universities. U.S. colleges and universities have with little visible struggle absorbed such functions as the training of primary and junior high school teachers, social workers, nurses, librarians, artists, home economists, sales and management personnel, and even industrial technicians; however, in the Netherlands, higher vocational (HBO) institutions provide the only tertiary level programs in these and other applied fields. The expectations of Dutch licensing boards and employers are that graduates of HBO programs will have received full and thorough preparation at the highest level in the field—expectations much like those held by U.S. employers and licensing agencies for graduates of tertiary vocational programs in the United States.

Unlike U.S. tertiary vocational programs, however, Dutch vocational programs range from two to five years in length, usually have only a modest general studies component, and almost always include a substantial practical training period. The Dutch Ministry of Education and Science takes the position that length alone does not determine the level of the qualification and quickly points out that the number of hours of theoretical instruction in some three-year programs is approximately the same as in many four-year programs. Legally, i.e., for purposes of university admission in a related field or employment, diplomas based on three or more years of study are usually viewed as being equivalent.

Another major difference between some U.S. tertiary vocational programs and Dutch HBO programs is the relatively high proportion of practical training found

---

*AUTHOR'S NOTE: The majority of Dutch teacher education programs officially belong to the higher vocational (HBO) sector. This includes primary teacher education and all three levels of secondary teacher education. Most first- or highest-level secondary and vocational teaching qualifications are available to university graduates completing the required student teaching and professional education courses.

Preprimary instructors are trained in intermediate vocational (MBO) institutes, i.e., at the secondary level; these are being replaced by tertiary institutions beginning 1983 (see Chapter 5).

in virtually all Dutch programs. It is extremely important to realize, though, that this aspect of Dutch vocational programs is not considered an optional, supplemental, or incidental component of the curriculum, as it is in many U.S. programs. The practical training periods, or *stages*, are an integral and major requirement of the entire educational experience. They tend to be highly structured and carefully directed. For example, in the higher technical (HTO) programs, suitably planned rotation to different sites ensures exposure to aspects of the field that have been found most important by the instructors in collaboration with their colleagues in industry. The students must prepare detailed reports, which are not mere logs of a job experience, but must reflect insight into the theory underlying the equipment and processes encountered. Each segment of the practical training must be completed to the satisfaction of the faculty member supervising it or it must be repeated. Considered in the assessment of each training segment are not only the reports prepared by the student but also evaluations of the student's performance prepared by the on-site supervisor. Because this type of training is a firmly established reality in the Netherlands, the firms and agencies participating are well aware of their responsibility for ensuring that these are optimal learning situations; after all, it is possible the individuals being trained may fill technical and supervisory positions with the same employer after graduation. Furthermore, both the schools and employers consciously and deliberately utilize student trainees as vehicles for bringing the realities of the work place back to the institution and carrying new ideas and developments to the job site.

Unlike the Dutch universities, which must by law accept VWO diploma holders, the higher vocational institutes are under no obligation to accept applicants regardless of the qualifications they hold. As a rule, at least the higher general secondary (HAVO) diploma, representing 11 years of education, is required, although there is some variability in qualifications required, depending upon the program. Furthermore, HAVO graduates are only one type of student entering HBO institutions. In some programs, because of the large number of VWO and MBO graduates applying, the majority of students admitted may actually have gone through at least grade 12. (See Chapter 3 for a discussion of secondary-level programs and Table 1.2 for an overview of Dutch education.) The lucrative career opportunities afforded by the completion of many higher vocational programs, coupled with the substantially shorter investment in time required (until recently) to complete a university program, have attracted many applicants with pre-university (VWO) qualifications. As a rule, HBO programs are the only form of higher education available to graduates of the secondary-level intermediate vocational (MBO) programs, and virtually all MBO programs leading to acceptable qualifications for admission to the HBO programs extend at least through grade 12. Graduates of HBO programs may also be eligible for admission to certain other HBO programs. The admissions requirements for specific programs or program types are given in the relevant sections below. In the future HBO graduates will also be eligible for certain "second phase" university programs (see Chapter 7), but no details about such opportunities are available at present.

Types of HBO Programs

Art Education

Art education (*kunstonderwijs*) encompasses the programs offered by the academies for visual arts, the Netherlands Film and Television Academy at Amsterdam, higher vocational training for museum personnel, musical training, and theatrical training.

The Art Academies. The academies for the visual arts (*academies van beeldende kunsten*) offer training in a wide range of visual art specializations, as well as preparation for the first- or highest-level teachers' certificate in art education (see Chapter 5). Admission requirements include demonstrated potential for a career in the visual arts, which usually involves passing an entrance examination and spending one or more days at the academy carrying out specific assignments. In addition, applicants must hold at least the HAVO, VHBO, or MBO diploma, or an equivalent qualification. The VWO or an HBO diploma is required for the first- or highest-level teachers' certificate program, except for graduates of the new teacher training institutes holding a second-level teaching qualification, who are admitted into the next to the last year in the appropriate major. Exceptions to these conditions may be requested.

The normal duration of the programs offered by the art academies is five years consisting of a foundation year (*basisstudie*), two years of preparatory studies for the major, and two years of professional study in the major itself. A practical training period of six months to one year is included in the final two years. In the teacher training program the practical training period is spent in schools or other institutions where art is taught. Majors are offered in architectural design (including interior decorating & furniture design); ceramics; commercial art; fashion design; film & television; general industrial design; monument design; painting & graphic arts; photography; photography & film; plastic arts; textile design; textile design & fashions; and first- or highest-level teacher training programs in drawing, handicrafts, and textile techniques.

The Film and Television Academy. The Netherlands Film and Television Academy at Amsterdam (Nederlandse Film- en Televisieacademie te Amsterdam) trains professional personnel to function in virtually every aspect of the film and television industries. Applicants must possess a VWO, HAVO, HTS, or VHBO diploma, but they must also pass a day-long entrance examination.

The four-year program begins with a common foundation year. Thereafter, the student chooses one of three major areas of specialization: literary-creative, which includes directing, screenwriting, and script production; technical-creative, which encompasses camera techniques, lighting & sound, stagecraft, and preparation for teaching. After two and one-half years, there is a training period with a film company or in television under the supervision of the Academy. The final half year is spent in the Academy preparing for the final examination.

Museum Personnel Training. Higher vocational training for museum staff (*hogere beroepsopleiding voor museummedewerkers*) addresses the role of the museum functionary as one of optimizing the value of the museum experience for the broadest possible cross section of the public. Minimum academic preparation includes either the VWO, HAVO, MBO, or VHBO diploma or the equivalent, with examinations in at least two modern foreign languages, or a modern foreign language and history or a science. Also taken into consideration are aptitude, character, background preparation, and motivation.

The three-year program consists of a preliminary (*propaedeutisch*) year, providing orientation and general background studies, including a half day per week of observation and work in a museum. Beginning with the second year the student selects a management or communication direction. After the first semester of the second year the predominant

method of instruction changes from lectures to group work, projects, and practical exercises. During two semesters of the second and third years, students spend two days per week in practical training appropriate to their option. The last semester is given to individual preparation for the final examination under the supervision of an instructor in the student's field of study. The exam includes the writing of at least one final essay.

Musical Training. Professional training in music (*muziekvakonderwijs*) is offered in conservatories (*conservatoria*) and music teachers' training institutes (*muziekpedagogische academien*) to prepare students for professional performing careers or careers in teaching, respectively. A test to determine vocal or instrumental skill levels and knowledge of basic music theory is required for admission. It is assumed that applicants will have had at least several years of musical training prior to seeking entry into the higher vocational programs. In addition, VWO, HAVO, or VHBO diplomas are required as evidence of an adequate level of general education. Like some of the other arts programs (theater and dance), exceptions are made on the basis of an entrance exam demonstrating a comparable level of general education and the possession of at least the MAVO diploma, which may be waived for applicants 25 years of age or older, or age 21 with at least two years of work experience in the field.

The length of study varies, but generally five to six years is required to complete most programs. Music theory is studied to varying depths as required by the area of specialization. However, all students cover counterpoint & harmony, general music theory, Gregorian chant, music history, solfeggio, theory of form & analysis, and practical subsidiary subjects. This core curriculum is followed by study and practical development in the student's specialty. Those preparing to teach also receive instruction in music education.

Musical training leads in three broad directions that are readily identifiable: 1) Instrumental/vocal training and directing (*instrumentale/vocale opleiding en directie*) is a pattern which leads primarily to employment with state-supported orchestras, but also to careers as instructors at schools of music, or privately. 2) Music teachers' training is available at two levels: the general music teachers' certificate (*muziekonderwijsakte A-algemene muzikale vorming/A-AMV*) enables the holder to teach at nonacademic institutions and from preprimary school through ninth grade; the school music teachers' certificate (*muziekonderwijsakte B-schoolmuziek*) is valid in the upper levels of secondary school and at higher vocational institutions. 3) Finally, there is a practitioners' diploma (*opleiding voor praktijkdiploma*), which enables the holder to perform such functions as organist or choir director for churches and private groups.

Graduates in any of these three areas are eligible for admission to the new teacher training institutes.

Theatrical Training. Training for the theater (*theateronderwijs*) prepares for careers in dance, drama, mime, and cabaret—and for the teaching of dance, drama, and mime. Admission is based to a large extent on aptitude and, in the case of dance, the level of artistic development of the applicant. Auditions are therefore required of all applicants. General educational preparation is expected to be at least at the VWO, HAVO, or VHBO levels, although exceptions can be made based on an entrance examination demonstrating a comparable level of education, provided the applicant possesses at least the MAVO diploma, or is 25 years of age, or is 21 with at least two years' relevant work experience.

Except for dance, the four-year program is divided into three phases: preliminary studies (*propedeutische studie*), one year; major studies (*vakstudie*), two years; and final studies (*eindstudie*), one year. The preliminary year serves an orientation and selection function. During the next two years, development of professional level skills in the major area is stressed. The three-year training offered in dance (*opleiding voor dans*) and in the associated four-year dance teachers' program (*opleiding voor docent dans*) has its foundation in classical techniques, after which modern dance is also studied. Students in the teachers'

program may select options in classical ballet, dance expression, jazz-ballet and/or folk dance, and modern dance. Candidates for the dance programs have usually had at least a four-year foundation course taken simultaneously with their secondary program. The training for drama, mime, and cabaret (*opleiding voor drama, mime, en kleinkunst*) is further divided into specializations in acting, the teaching of drama, mime, and cabaret.

The final year of all options is considered a transition year in which the students concentrate on getting ready for actual performance or teaching. About two-thirds of the weekly schedule throughout the program is devoted to the development of performing skills, and the remaining third to theoretical and practical instruction. Graduates are admissible to the new teacher training institutes.

Higher Agricultural Education/HLO

Higher agricultural education (*hoger landbouwonderwijs*/HLO, also known as *hoger agrarisch onderwijs*/HAO) prepares students for a number of functions in the fields of agriculture, food technology, forestry & cultivation technology, horticulture, and landscape architecture.

Applicants who have passed examinations at the appropriate level in chemistry and physics (biology, economics and mathematics are also recommended) and hold either a VWO, HAVO, MLO (a-*cursus*), or a VHBO diploma may be considered for admission to the higher agricultural schools. A preparatory year, remedial in nature, is intended primarily for graduates of the intermediate agricultural (MLO) schools. Although MLO graduates technically are admissible to the first year proper, many are found to need additional theoretical study. The preparatory year also enables a limited number of applicants from HAVO programs to make up specific deficiencies in order to enter an HLO program. Often lacking practical skills and sometimes unfamiliar with agricultural settings, VWO and HAVO diploma holders are required by several institutions to undergo a brief practical orientation in their chosen field prior to beginning the formal program.

The first year of the four-year program is devoted largely to basic subjects including biology, chemistry, economics, languages, mathematics, physics, and sociology, with only a limited introduction to vocational subjects. This first or preliminary year is known as *de propaedeuse*. The second phase, referred to as *ing*-I, is a year and a half in length and consists of a broad orientation, and practical courses relevant to the area of specialization. The final phase, *ing*-II, also a year and a half in length, is characterized by practical training in the first semester and by greater specialization. During this last phase some flexibility in the selection of classes is permitted.

HLO schools specializing in agriculture offer majors in agricultural economics, agricultural research, agronomy, animal science, environmental studies, plant breeding, rural planning, and tropical agriculture. The horticultural schools prepare graduates for a wide variety of employment opportunities ranging from plant breeding or marketing to positions in research laboratories and public information agencies. The Higher School of Forestry and Cultivation Technology at Velp, (Hogere Bosbouw- en Cultuurtechnische School te Velp) offers majors in conservation, forest administration, land management, and cultivation technology with options in hydrology, planning, and project management. The National Higher School of Landscape Architecture (Rijks Hogere School voor Tuin- en Landschapsinrichting) offers options in landscape design, maintenance & management, and technical realization.

Like graduates of the higher technical schools (discussed later in this chapter under "Higher Technical Education"), graduates of the higher agricultural schools may use the title of *ingenieur* (engineer), which is abbreviated *ing.*, to distinguish them from graduates

of the Agricultural University (Landbouwhogeschool), Wageningen, who abbreviate the same title as *ir*. (See "First Degrees and Professional Titles," Chapter 7.)

Graduates of the higher agricultural schools are admissible to the following programs: the Agricultural University (Landbouwhogeschool); the new teacher training institutes; one-year special commercial/technical program (CT *studie*) offered by Nijenrode, the Netherlands School of Business, Breuken (Instituut voor Bedrijfskunde van Stichting Nijenrode), on a space-available basis, to Faculties for Veterinary Medicine. Higher agricultural education is also considered good preparation for other university studies, for example, biology, economics, and geology. Admission to the latter university programs is made possible by means of a special entrance examination known as the *colloquium doctum* (see Chapter 7).

Higher Economic and Administrative Education/HEAO

Higher economic and administrative education (*hoger economisch en administratief onderwijs*/HEAO) is the Dutch terminology characterizing studies usually offered in the United States at tertiary level schools (or departments) of business. HEAO encompasses programs in accounting (*accountancy*/AC); brokerage (*makelaardij*/MA); business administration (*bestuurskunde*/BU); business economics (*bedrijfseconomische*/BE *richting*); business informatics, i.e., computer science (*bedrijfsinformatica*/BI); business language studies (*economisch-linguistische*/EL *richting*); business law (*economisch-juridische*/EJ *richting*); commercial economics (*commercieel economische*/CE *richting*); communications (*communicatie*/CO); marketing (*hoger distributie onderwijs*/HDO); and transportation (*vervoerskunde*/VK)and fiscal sciences (*belasting*/FA). In addition, one institution specializes in recreation and tourism (*rekreatief en toeristisch onderwijs*), and there is one program for translators (*hogere opleiding tot vertaler*) at yet a different institution. All of these programs train the participants to function independently and to supervise others in both the public and private sectors. The programs, formerly all three years long, now range in length from three to four years.

Admission is based on VWO, HAVO, MEAO, or MMO diplomas. Examinations for the previous diplomas must include two subjects chosen from commercial science, economics, and mathematics for all programs except communications, tourism, and translators' training. Communications requires exams in at least economics or commercial science and a modern language. Tourism requires two subjects chosen from commercial science, geography, and mathematics. Particular subject requirements are not specified for admission to the translators' training program, but the qualifications held must be academically equivalent to at least the HAVO diploma.

Graduates of the HEAO schools and the Institute for Higher Recreation and Tourism Education are eligible for admission to the new teacher training programs. In addition, graduates of HEAO programs, except those in tourism/recreation and translation, are admissible to university programs in law and economic sciences with possible advanced standing. The three types of institutions offering HEAO programs, and the programs offered, are discussed below.

Schools for Higher Economic and Administrative Education (*scholen voor hoger economisch en administratief onderwijs*). These schools offer most HEAO programs. Among the three-year programs are business economics, business law, commercial economics, and transportation. Also offered are four-year programs in accounting, business informatics (computer science), business language studies, and marketing (the latter two are experimental). Experimental three and one-half year programs are offered in brokerage and communications. The first year of all options except business law and business language

has a common curriculum. The three-year options include a three-month practical training period at the end of the second year. All programs require a final project or paper and a final exam supervised by the Ministry of Education and Science.

Recreation and Tourism. The Institute for Higher Recreation and Tourism Education at Breda (Instituut voor Hoger Rekreatief en Toeristisch Onderwijs te Breda) offers a three-year program (*hoger rekreatief en toeristisch onderwijs*), which has an economic or sociological stream and permits specialization in foreign travel organization, internal tourism, and planning & recreation. Included are several training periods of a few weeks each and a major one of four months. Specialization in all programs takes place after the first year.

Translators' Training. Higher translators' training (*hogere opleiding tot vertaler*) is one of the programs offered by the National Institute for Higher Vocational Education (Rijksinstituut voor Hoger Beroepsonderwijs). Dutch, English, French, German, and Spanish are the languages available for specialization. The students select three languages, their native language (which need not be Dutch), and two others. Emphasis in the first year of the four-year program is on thorough study of the native language. After the second year the student chooses one of the other two as the primary foreign language. The objective is to be able to translate from both foreign languages into the native language and from the native language into at least one of the foreign languages. Students must also specialize in one of the following areas of translation: economic-administrative (business), governmental-legal, medical-biological, or technical-scientific. A 20-week practical training period takes place in the third year.

Higher Health Care Education/HGZO

Higher health care education (*hoger gezondheidszorg onderwijs*/HGZO) encompasses training for dietitians, occupational therapists, physical therapists, speech pathologists-audiologists, for instructors at health care training institutions, and three types of training programs for nurses (discussed in Chapter 6). These programs, described below, are either offered by specialized institutions or, more recently, by higher schools for health care (*hogere scholen voor gezondheidszorg*/HSG).

Dietitians' Training. Dietetics is considered a paramedical field by the Dutch. The training program for dietitians (*opleiding diëtetiek*) leads to a variety of careers in hospitals, outpatient care, consulting, teaching and research. HAVO graduates and those deemed to have comparable qualifications are eligible for admission. Some institutions require that an applicant have passed chemistry at least at the HAVO level.

The four-year program includes a preliminary (*propedeutisch*) year and a three-year diploma phase (*diploma-fase*), which includes examinations in key subjects and a practical training period. The curriculum, which includes an orientation to the dietitians' profession, and physical education, is further divided into three main categories, listed with subjects offered in each:

—Medical/Biological: anatomy & physiology, general biology, medical science, microbiology, molecular biology, and pathology.

—Nutrition: appliances, biochemistry of foodstuffs, food stuffs, general & organic chemistry, general practice, nutrition, theoretical & practical recipe & menu studies, and theory of diet.

—Social/Educational: communications & counseling, Dutch, organizational theory, and psychology & sociology.

The final evaluation in each of the three areas consists of the following: examination results accumulated throughout the program; the student's performance in practical train-

ing; a final essay, in which the student is permitted some choice as to the topic; and an oral examination covering the functional requirements for being a practicing dietitian. Graduates are admissible to the new teacher training institutes.

Until recently, dietitian's training (*opleiding dietetiek*) was classified under higher home economics education and included a one-year preparatory course (*vooropleiding*) for applicants who qualified on the basis of an intermediate home economics (MHNO) diploma. The three-year program was open to applicants possessing a HAVO or comparable diploma.

Occupational Therapists' Training. Occupational therapists' training (*opleiding voor arbeidstherapie/ergotherapie*), a four-year program, is designed to prepare professional occupational therapists, and help develop the professi... Admissible are HAVO graduates and those with an equivalent diploma. The theoretical program is divided into five sections: 1) occupational therapists' section; 2) medical section; 3) social science section; 4) activities section; and 5) Dutch and physical education. Training consists of two phases. The first phase (preliminary) is directed at general aims and preparation for the profession. The second phase consists of further theoretical education and a practical training period of 160 to 200 days. Regulations for the final examination are still in the development stage.

Physical Therapists' Training. Training in physical therapy (*opleiding voor fysiotherapie*) has as its object the development of the knowledge and insight and the skill and attitude necessary to begin work as a professional physical therapist. Admissible are HAVO and VHBO graduates or those having comparable preparation which must include courses in Dutch, English, German, and at least two of the following: biology, chemistry, and physics. Furthermore, a medical clearance is required showing that the applicant possesses the physical ability necessary to practice the profession.

The four-year program includes practical training periods totaling 40 weeks in the third and fourth years of the program. The first and second years deal primarily with theoretical subjects, practice of basic skills, orientation to the health care field, and observation of professional practice. No treatment of patients is permitted in the first two years. During the first three years, examinations are given in subjects that will not be covered in the final exam. The subjects covered in the program are anatomy, anthropology, education, kinesiology, pathology, physical education, physical therapy, physiology, psychology, and sociology. Students promoted to the fourth year are eligible to sit for the final examination without further preliminary examinations. Instructional methods include lectures, seminars, group discussions, and practical exercises. Graduates are admissible to the new teacher training institutes, to the teacher training program for health care training institutions, and other training programs for health care personnel.

Speech Pathologists'-Audiologists' Training. Training for speech pathologists-audiologists (*opleiding voor logopedie-akoepedie*) is a combined program geared not only toward training for professional practice, but toward establishing the theoretical foundation necessary for potential contribution to the development of both fields. VWO, HAVO, or VHBO diplomas, or an acceptable equivalent are required for admission. In addition, applicants must be free of speech and voice impediments and willing to subject themselves to psychological testing.

The four-year program includes a practical training period of 120-150 days. The subject matter taught is divided into three categories. Major subjects include afflictions of the speech organs, aphasia, articulation disorders, listening rehabilitation, speech development disorders, stuttering, and voice disorders. General supporting subjects include anatomy, education, neurology, pathology, physiology, psychiatry, and psychology. Specialized supporting subjects include acoustic phonetics, acoustics, articulatory phonetics, audiology, audiometry, electronic acoustics, linguistics, and speech development. Eligibility for the diploma is based on passing 6 to 8 preliminary theoretical examinations, the

preparation of an essay and a final interview. Graduates are admissible to the new teacher training institutes.

Health Care Instructors' Training. Training for instructors at health care institutions (*opleiding tot docent te behoeve van instellingen voor de gezondheidszorg*) is available to individuals possessing the following qualifications: hospital nursing diplomas A, B or Z; MBO-v, HBO-v, and diplomas of X-ray technicians, radiodiagnostic technicians, and radiation therapy technicians. Those deemed to have comparable qualifications are also admissible. Applicants must have at least one year of experience in their field within the two years prior to seeking admission.

The one-year program (or two years part-time) includes a practical training period of at least ten weeks. In addition to an orientation, it covers education, organizational theory, psychology, social science, sociology, teaching methods, and the foundations of the teaching specialty. Graduates are eligible for admission to the advanced nurses' training program (HOV; see Chapter 6), the social academies, and the new teacher training institutes.

Higher Home Economics Education/HHNO

Higher home economics education (*hoger huishoud- en nijverheidsonderwijs*/HHNO) at present refers only to applied domestic science programs (*opleiding toegepaste huishoudwetenschappen*/THW), which have as their objective the preparation of individuals capable of contributing to human welfare by promoting optimal living conditions through the application of domestic science principles. To this end the program endeavors to develop leadership, social skills, and technical insight in the areas of household appliances, hygiene, interior decorating, nutrition, and textiles. Graduates are employed in the management of the sanitation and food services of large organizations such as schools and hospitals, or they work for agencies which provide information and instruction on household management and domestic science to the public. A VWO, HAVO, VHBO, or other appropriate MBO diploma is required for admission, preferably including examinations in at least one of the following: biology, chemistry, economics and/or physics.

In the first two years of the four-year program a general foundation for further study is laid. During the first year, supplementary courses in basic subjects are available including biology, chemistry, general economics, and physics. The third year is devoted to practical training. In the fourth year either a management or instructional direction is taken. Various subjects are required and others are selected from the following major areas: business subjects, including administration, commercial science, household economics, law, organization, and statistics; environmental studies including administrative, economic, legal, and organizational aspects, environmental education, and general studies; social sciences, including instructional methodology, personnel management, psychology, and sociology; and technical domestic science subjects, including appliances, interior decorating, nutrition, and textiles. Holders of the diploma of training in applied domestic science (*diploma van de opleiding toegepaste huishoudwetenschappen*) are admissible to the new teacher training institutes.

In 1980-81 a new program in environmental studies became available, including courses covering the following areas: administrative & legal aspects of environmental problems, economic & organizational aspects of environmental problems, environmental education, environmental studies, and general studies.

Until recently the training of dietitians was also included in higher home economics education, but now falls under higher health care education, where it is treated in this volume.

Prior to the 1963 Secondary Education Act (implemented in 1968), institutions for higher

home economics education admitted MULO graduates (pre-1968 counterpart of MAVO, grade 10), and applicants with the first three years of earlier pre-university or higher secondary (VHMO) programs (completion of grade 9). Graduates of the old-style LTS (completion of grade 8 or 9) could be admitted to a one-year preparatory course. In addition to programs in the fields mentioned earlier, a four-year training program for home economics teachers (*middelbare opleiding*) was offered. The pre-1968 programs should be viewed as being somewhat comparable in level to modern MHNO programs (see Chapter 3).

Higher Retailers' Education/HMO

Higher retailers' education (*hoger middenstandsonderwijs*/HMO), i.e., specialized retail management training, is offered only by two higher hotel schools (*hogere hotelscholen*) and prepares students for management-level positions at hotels, restaurants, and similar establishments. Admission is based on the HAVO, VWO, MEAO, MMO, and VHBO diplomas (see Chapter 3 for a discussion of secondary education credentials). Preparation in economic subjects and foreign languages is preferred. Applicants, who must be between the ages of 17 and 23, must also provide certification of being physically and psychologically fit, and undergo an interview prior to being admitted.

A "profit" or "nonprofit" orientation is possible within the program. At the end of each year of the three-year program, there are practical training periods. The third year practical training period emphasizes the management of an entire establishment. At least a temporary stay in institutional boarding facilities is required as a part of the program.

The HMO diploma satisfies the legal requirement for proficiency in business administration for those individuals wishing to open a restaurant or retail establishment, although such business permits can also be obtained on the basis of some other academic qualifications, e.g., the MMO diploma, or directly on the basis of examinations. Graduates are also admissible to the new teacher training institutes.

At one time the higher hotel schools were known as *hogere hotelvakscholen*. A preparatory year was offered in addition to the basic three-year program and was required of students who were admitted with only a MAVO diploma or the intermediate retailers' (MMO) diploma.

Higher Socio-Pedagogical Education/HSPO

In the Dutch concept, higher socio-pedagogical education (*hoger sociaal-pedagogisch onderwijs*/HSPO) consists of a variety of educational opportunities at the higher vocational level linked by a common theme of service to human society. Included are programs of the academies for dramatic expression, training for activity leaders, programs of the schools of journalism, programs of the library and documentation academies, programs offered by the social academies, higher vocational training for the book trade and publishing, programs of the academy for school and vocational counselors, training for youth development leaders, and training for youth welfare workers (see descriptions below).

Academies for Dramatic Expression. The three academies for dramatic expression (two are called Academie voor Expressie door Woord en Gebaar, and one Academie voor Expressie in Communikatie) have as their objective the training of teaching staff in the field of dramatic expression. The training is intended for prospective teachers at secondary schools, teacher training and other vocational training institutes, in clubs, and in institutions for the handicapped.

To be admitted, an applicant must be at least 18 years of age and possess at least the HAVO or VHBO diploma. The four-year program includes theoretical courses in anatomy,

costume lore, education, history of drama, literature, and psychology; and practical courses in acting, art of expression, costume improvisation, creative play, historical movements in folk dance, language mastery, mime, musical training, speech, voice training, etc. Graduates are eligible for admission to the new teacher training institutes.

Activity Leaders' Training. The training program for activity leaders (*opleiding tot activiteitenleider*) is offered by the same institutions offering the youth development leaders' program and shares some of the same objectives. It is, however, not strictly youth oriented and focuses more on the creative activities themselves. Its purpose is to train staff members for hospitals, clinics, and psychiatric institutions, who are capable of instructing and leading the patients in creative activities.

VWO, HAVO and VHBO graduates are considered admissible, as are individuals who demonstrate by means of an admissions examination that they possess a comparable level of preparation. The four-year program includes practical training periods of two and three days per week, respectively, throughout the third and fourth years. The first year has a common introductory curriculum. Thereafter the students select the area in which they will be working, i.e., psychiatry, rehabilitation, etc., and a creative activity major from the areas of handicrafts, drama or music. The emphasis throughout the three-year main portion of the program is on the creative activity major.

Humanist Counseling Training Institute (Humanistisch Opleidinginstituut voor Geestelijk Raadswerk), Utrecht. The Institute trains counselors for work in homes for the elderly, hospitals, prisons and the army. Volunteers are trained to carry out spiritual counseling and training in a particular locality, and to provide humanist training and social education. Graduates take up senior positions in spiritual counseling and training in the various organizations of the Humanist League. Spiritual workers are also trained for counseling, as it is needed, in areas outside the League.

To be eligible for the part-time four-year course, applicants must possess a VWO, HAVO, VHBO, or MBO diploma. Applicants must be at least 20 years of age with experience in social work and must work at least 20 hours per week in their particular field beginning in the first year.

Students take prescribed courses throughout the four years despite their specialization. From the second year onwards, students choose a number of work groups and optional subjects geared toward the following specializations: humanist counseling, training work, or humanist teaching work.

Journalists' Training. Three schools of journalism (*scholen voor journalistiek*) train students for professional careers in journalism. HAVO and VHBO diploma holders are considered admissible to the program. The three-year course of study offers courses in art and music, journalism, mass communications (both from a technical and ethical point of view), and the social sciences, including civil and criminal law. Elective foreign languages are offered, and there are courses fostering self-expression and physical development. Graduates are eligible for admission to the new teacher training institutes.

Librarians' Training. The library and documentation (reference) academies (*bibliotheek- en documentatie-academies*) prepare students for positions as librarians and reference specialists in public, special, scientific and youth libraries. A basic two-year diploma qualifies students for assistant librarian positions, and the one-year advanced programs lead to specialized qualifications. VWO, HAVO, and VHBO diplomas qualify applicants for admission to the basic two-year program, leading to the assistant librarians' diploma (*diploma hogere beroepsopleiding tot assistentbibliothecaris*).

The curriculum of the two-year basic program encompasses three major subject areas: 1) library science, including bibliography & reference, binding, book selection, book trade & publishing, graphic techniques & reproduction, history of the book & writing, library

facilities & organization, library history, library techniques of classification & description, literary criticism, newspapers & periodicals, public relations, reporting, special documents, and special library types (libraries for the blind, music, youth and school libraries, etc.); 2) general subjects, including the classification of knowledge, cultural history, the function of libraries in society, general economics, government organization, mass communications, microeconomics, philosophy, problems of contemporary life, psychology, and social structures & development; 3) language and literary subjects, including Dutch, literary science, and literature of various foreign languages. In the second year, Russian is optionally available. Six weeks of practical training per year are included.

A variety of specialized one-year advanced programs train for service as a public librarian, reference librarian, youth librarian, school librarian, music & record librarian, or as an official in scientific libraries. These advanced programs are open to those who have successfully completed the basic program. Holders of the basic and advanced diplomas are admissible to the new teacher training institutes.

The Social Academies. The purpose of the social academies (*sociale academies*), formerly known as schools of social work (*scholen voor maatschappelijk werk*), is the training of professional social workers for a broad range of assignments, and the training of professional personnel workers. The programs offered may lead to employment as a social worker in an institutional setting or with agencies reaching out to specific groups, such as the aged, youth, or refugees; or they may lead to responsible positions in personnel offices in either the public or private sectors.

Admissible are graduates of VWO, HAVO, VHBO, many MBO programs, and those holding the preprimary head teachers' (principals') certificate (*akte* B).

All of the programs presently offered by the social academies are four years in length. For all programs the first year of study is, in theory, a basic introductory year, although selection of an area of specialization is possible prior to being admitted.

There are four established areas of specialization, in addition to the experimental program of the Agogische Academie Friesland discussed below and in Chapter 7. The major in social work (*maatschappelijk werk*) focuses on social work in schools, hospitals, plants and offices, households, and with special groups, such as individuals requiring rehabilitation, temporary workers from abroad, and people living in mobile dwellings (such as trailers and barges). The major in cultural work (*cultureel werk*) deals with the training of professionals supportive of the growth process in groups and individuals by working with clubs, folk high schools (continuing adult education), training centers for working youth, and youth organizations. The major in settlement work (*inrichtings werk*) is aimed at the training of social service staff capable of providing assistance to those temporarily or permanently separated from their accustomed environment. The community development major (*opbouwwerk*) is directed toward the preparation of staff capable of fostering productive involvement in community activities, such as involvement with a church.

Advanced professional training (*voortgezette agogische beroepsopleiding*) with varying durations of study is available at four institutions to holders of the diploma from the social academies. Graduates are also admissible to university programs in the social sciences and to the new teacher training institutes.

The experimental program of the Agogische Academie Friesland follows a more general theoretical pattern. After a common first year the student follows either a higher vocational diploma pattern or a university (*doctoraal*) pattern. The HBO pattern leads to a fully recognized diploma in social work, while the *doctoraal* pattern leads to the degree of *doctorandus* in the field of social science. The university (*doctoraal*) pattern is open to graduates of VWO programs, of the elementary teacher training academies (*pedagogische academies*), or of other social academies.

Training for the Book Trade and Publishing (*hogere beroepsopleiding voor boekhandel en uitgeverij*). This program trains personnel for employment in the book distribution and publishing trades and related areas. VWO, HAVO and MMO diploma holders are admissible, as are others who demonstrate a comparable level of achievement. A grade of at least satisfactory (6 out of a possible 10; see Chapter 9) in the following subjects is also required: Dutch, two modern foreign languages, commercial science or economics or mathematics. The first year of the three-year program has a common curriculum including the following: cultural development, information science, languages, literary science, literature, management, physical education, production of printed materials & their distribution, professional literature, science of the specialty, technology, trade, and appropriate practical training. The latter consists of two six-week periods, one spent with a book dealership and the other with a publisher. The second and third year are devoted to specialized study directed toward either the book trade or publishing.

Vocational Counselors' Training. The Academy for School and Vocational Counseling (Academie Mens-Arbeid, also known as Academie voor School- en Beroepskeuzewerk) trains personnel for counseling in the areas of job selection, adjustment to work, etc. Applicants with HAVO, VHBO or comparable diplomas are considered eligible for admission. The program is three years and five months in length. The first two years are spent in classes. The third year is devoted to practical training during which one day a month is spent in the classroom. The final five months are again spent in classroom instruction. Included in the curriculum are courses on the art of conversation, creative play, Dutch, economics, education, the educational system of the Netherlands, employment, familiarity with the job market, general counseling methods, general management, gymnastics, on-the-job counseling methods, organizational theory, philosophy, principles of social change, psychodiagnostics, psychology, public speaking, social law, social mobility, sociology, statistics, teaching methods, vocational counseling methods, and working with groups. The training includes visits to numerous schools and work sites. Graduates are eligible for admission to the new teacher training institutes.

Youth Development Leaders' Training. Four HBO institutions offer a program for the training of youth development leaders (*opleiding jeugdvormingsleider*, known earlier simply as *opleiding jeugdleiders*). These individuals promote the positive development of Dutch youth in such settings as training institutes (*vormingsinstituten*), where young workers beyond the mandatory age of school attendance and other young adults have an opportunity to participate in voluntary programs designed to ease the problems of work and daily life. They are also employed at correctional facilities, children's homes, and anywhere else the positive development of young people is of professional concern.

VWO, HAVO, and VHBO diploma holders are eligible for this program. The four-year program includes a practical training period. Two major components characterize the program: a youth-focused social science core, including child psychology, developmental psychology, education and group work; and creative skills courses designed to be of value in youth programs, such as dramatic expression, games, handicrafts, music and sports. Graduates are admissible to the new teacher training institutes.

Youth Welfare Workers' Training. Higher vocational training for youth welfare work (*hogere beroepsopleiding jeugdwelzijnswerk*/HBO-j) is offered by 9 HBO institutions around the country. The program concentrates on the welfare problems of children and adolescents with emphasis on the problems of the abused and disturbed.

Applicants are accepted on the basis of VWO; HAVO; VHBO and many other MBO diplomas.

Students are trained to provide educational support for sick and handicapped children

and to organize educational activities in a variety of settings, such as day-care centers and children's homes. Graduates are admissible to the new teacher training institutes.

Higher Technical Education/HTO

Higher technical education (*hoger technisch onderwijs*/HTO) includes three sub-areas of study: higher technical education, per se offered by higher technical schools (*hogere technische scholen*/HTS); higher laboratory education (*hoger laboratorium onderwijs*/HLO); and higher nautical education (*hoger nautisch onderwijs*).

Higher Technical Schools (*hogere technische scholen*/HTS). These schools prepare for a variety of technical careers particularly in industry, and some even train graduates to independently operate smaller plants. Presently, HTS courses are open to those with VWO, HAVO, VHBO, or appropriate MBO qualifications (see Chapter 3). Students must particularly have passed examinations in mathematics and physics.

Prior to 1968, the higher technical schools (HTS) required a minimum of only four years of secondary education (grade 10) for admission. Because of this, pre-1968 HTS programs may be thought of as comparable in level to the modern intermediate technical school (MTS) programs.

The approximately 30 higher technical schools (HTS) of today offer a wide variety of engineering and technological programs. Programs are available in aeronautical engineering, applied physics, architecture, automotive technology, construction technology, chemical engineering, chemistry, civil engineering, computer science (software), computer science (hardware), electrical & electronic engineering, industrial engineering, mechanical engineering, metallurgy, naval architecture, physics, surveying, textile technology & management, and traffic engineering.

HTS programs generally are four years in length. The first two years consist of theoretical training to provide the foundation in the field of study. The third year is spent in practical training in industry consisting of supervised work experience and the preparation of reports, which are evaluated jointly by the sponsoring institution and the firm. If satisfactory progress is made in the practical year, the student is admitted to the fourth year, which emphasizes the field of specialization. During this last year the student completes a final project, which has to be defended, and takes classes preparing for the comprehensive final examination, usually consisting of six subjects. Many programs have evening versions of various lengths, covering the same content as their daytime counterparts. See Tables 4.1, 4.2, and 4.3, for the subjects taught and the typical number of hours of instruction required in civil engineering, electrical engineering, and mechanical engineering, respectively.

Graduates of the higher technical schools are permitted to use the title *ingenieur*, abbreviated *ing.*, which distinguishes them from university graduate engineers, who abbreviate the same title as *ir.* Official descriptions of HTS programs sometimes state that the level attained by HTS engineers is comparable to that of university-trained engineers, or that the major difference is that HTS engineers are more practically oriented while their university counterparts have a more theoretical background. However, at least one important legal distinction is made between HTS and university engineers in terms of the teaching qualifications to which the two groups may aspire. As a rule, with additional experience, publication, or perhaps the preparation of a dissertation, university-trained engineers may fill faculty positions at either the technological universities or the higher technical schools. The HTS engineers, on the other hand, may only obtain the third- or lowest-level vocational teaching qualification (*derdegraadsbevoegdheid*). (See Chapter 5.)

Table 4.1. **Civil Engineering Syllabus, Higher Technical School (HTS)**

Subjects	Class Hours 1st & 2nd Years	Class Hours 4th Year
Applied Mechanics	250	–
Building Materials	60	–
Construction	230	130
Hydraulic Engineering	120	130
Hydraulics	60	–
Management Science	60	30
Mathematics & Prugramming	250	–
Physics & Chemistry	60	–
Public Health Engineering	30	30
Soil Mechanics	60	–
Surveying	80	40
Traffic Engineering	60	60
General Subjects, including Dutch, English & German	200	–
Drawing & Design	350	260
Laboratory Work	130	20
Sports	*	*
Final Project	–	300
Totals	2000	1000

SOURCE: Adapted from *The Institutes of Technology in the Netherlands* (The Hague: Ministry of Education and Science, 1979), p. 23.

*Number of hours varies.

Table 4.2. **Electrical Engineering Syllabus, Higher Technical School (HTS)**

Subjects	Class Hours 1st & 2nd Years	Class Hours 4th Year
Information Technology	400	170
Management Science	30	60
Mathematics & Programming	330	50
Materials Science/Chemistry	50	–
Mechanical Engineering	60	–
Mechanics	120	–
Physics	180	–
Power Engineering	220	170
Theory of Electricity	140	70
General Subjects, including Dutch, English & German	200	–

Drawing & Design		70	–
Laboratory Work		200	180
Sports		*	*
Final Project		–	300
	Totals	2000	1000

SOURCE: Adapted from *The Institutes of Technology in the Netherlands* (The Hague: Ministry of Education and Science, 1979), p. 70.

*Number of hours varies.

Table 4.3. **Mechanical Engineering Syllabus, Higher Technical School (HTS)**

Subjects	Class Hours 1st & 2nd Years	Class Hours—4th Year Design Eng.	Produc. Eng.	Power Eng.
Applied Mechanics	220	60	60	60
Design Engineering	–	90	–	–
Electrical Engineering	80	40	–	40
Gen. Mechanical Eng.	140	60	–	70
Management Science	60	80	130	70
Materials Science	80	50	50	50
Math & Programming	280	60	60	60
Measurement & Control	–	60	60	60
Physics & Chemistry	160	30	30	30
Power Engineering	140	60	90	120
Production Engineering	90	–	90	–
Gen. Subjects, including Dutch, German & English	200	–	–	–
Drawing & Design	270	110	130	140
Laboratory Work	70			
Workshop Engineering	210	–	–	–
Sports	*	*	*	*
Final Project	–	300	300	300
Totals	2000	1000	1000	1000

SOURCE: Adapted from *The Institutes of Technology in the Netherlands* (The Hague: Ministry of Education and Science, 1979), p. 86.

*Number of hours varies.

The HTS diploma gives access to the appropriate Faculties of the technological universities for the purpose of working toward a university engineering degree. The experimental 1979 Mutual Transfer in Higher Education Law (Wet Wederzijdse Doorstroming Hoger Onderwijs), in effect through 1985, also makes it possible after one or two years to transfer

to a university program on the basis of a suitable transfer report by the director of the HTS attended. HTS graduates also may be admitted as transfer students to academies for construction arts and architecture. In addition, they are eligible to enter the new teacher training institutes (NLO) and the Netherlands Film and Television Academy in Amsterdam. (See Appendix B, Documents 6a, 6b, & 6c, for examples of an HTS diploma and related academic records.)

Higher Laboratory Education. Higher laboratory education (*hoger laboratorium onderwijs*/HLO), another component of higher technical education (HTO), has the objective of preparing laboratory workers capable of understanding the technical language of a particular field, carrying out laboratory procedures according to stated parameters, interpreting the results, and taking appropriate action, if necessary. Admissions requirements are quite similar to those for other HTO programs. The VWO, HAVO, or MBO certificates must include examinations in at least two subjects selected from biology, chemistry, mathematics, and physics. All programs require final practical and theoretical examinations covering at least three major and three minor subjects. Higher laboratory programs are in the process of being reorganized into one basic program type of three and one-half years' duration, including a half year of practical training. The last students were admitted to the old programs in the 1983-84 academic year. The old HLO programs offered by the schools for laboratory personnel (*scholen voor laboratoriumpersoneel*) are the A and the B programs described briefly in the following paragraphs. Details of the new program were not available for inclusion in this volume.

The A program is of two years' duration and is practically oriented. The objective is to teach basic laboratory techniques in the fields of botany, chemistry, medicine, physics, or zoology, and to develop the ability to interpret and tabulate the results in reports. The A program's chemistry option has analytical, biochemical, and technical microbiological branches. The medical option of the A program offers specializations in clinical chemistry, microbiology, and pathological anatomy/histology. Specializations in physiology/pharmacology, histology, and ecology are available to students in the zoology option.

The three-year B program, theoretically oriented with options in botany, chemistry, medicine, and physics, aims at developing the ability to work independently and to participate in scientific research. The B program's chemistry option offers analytical, biochemical and preparative organic directions. The medical option is divided into specializations in medical chemistry and medical biology. A two-year evening course is available for A diploma holders to continue their studies toward the B diploma. Holders of the B diploma may continue their studies in chemistry at the university level and are admissible to the new teacher training programs.

A relatively new four-year experimental natural science HLO program (*hoger natuurwetenschappelijk onderwijs*/HNWO) aims at in-depth theoretical knowledge and is intended to offer greater flexibility in the subsequent selection of a position. It is offered by only two institutions at this time.

Higher Nautical Education. Higher nautical education (*hoger nautisch onderwijs*), also part of the higher technical (HTO) sector, is a designation frequently used to categorize the nine higher navigation, or nautical, schools (*hogere zeevaart scholen*) in the Netherlands. These schools presently offer programs for the training of ship's engineers, flight engineers, hydrographic surveyors, navigators, operational technologists, and radio officers. Formerly, navigators' training (*opleiding stuurlieden*), the training for ship's engineers (*opleiding scheepswerktuigkundige*), and radio operators' training (*opleiding radiotelegrafisten*) were offered by separate institutions. The institutions training navigators were at one time known simply as *zeevaartscholen*, and those for the training of ships' and flight engineers as *scholen voor scheeps- en vliegtuig-werktuigkundigen*.

Admission to higher nautical education (*hoger nautisch onderwijs*) is governed by virtually the same requirements as admission to higher technical schools; i.e., VWO, HAVO, or appropriate MBO certificates are acceptable, provided the applicant has passed examinations in mathematics and physics. Graduates of the higher nautical schools are eligible for admission to the new teacher training institutes. In addition, those with diplomas in navigation, ship's engineering, and radio communications are eligible for nautical education teacher training programs in their fields of specialization.

Programs offered by the various departments are the following:

—Departments of Navigation (*Navigatie*) and Nautical Engineering (*Scheepswerktuigkunde*): four-year programs including a half-year at sea during the third year. These programs lead to school diplomas qualifying for the lowest level national navigator's diploma (*rijksdiploma derde stuurman*/S III) and the lowest level national ship's engineer diploma (*rijksdiploma* A *als scheepswerktuigkundige*). With additional experience at sea, graduates may obtain advanced navigation diplomas (S II and S I) and advanced ship's engineer diplomas (*rijksdiploma* B and C) without state examinations.

—Department of Ship's Radio Communications (*Scheepsradiocommunicatie*): three-year programs leading to a school diploma that entitles the holder to the general radio officer's certificate (*algemeen certificat als radio-officier*), which is also a state diploma.

—Department of Flight Operations (*Vliegtuigoperatie*): four-year program of which the third year is again devoted to practical training, leading to the qualification of flight engineer (*vliegtuig-werktuigkundige*).

—Department of Hydrography (*Hydrografie*): four-year program which follows the specifications of the International Hydrographic Bureau and leads to qualification as a hydrographic surveyor (*hydrografie surveyor*). Third year is spent in practical training.

—Department of General Operational Technology (*Algemene Operationele Technologie*): four-year program, with third year of practical training, has business and technical options. The business option addresses questions of organization and communications related to shipping. The technical option deals with general questions of engineering within the shipping industry.

Post-HBO Courses

Short advanced specialized courses (*post-HBO-cursussen*), usually offered on a part-time basis in the evenings, are available to graduates of a number of the higher vocational programs. These courses are designed to fill the needs of individuals already working in their field who wish to update their training or who have special needs related to their job responsibilities, such as those resulting from advancement to a supervisory position. Several courses of this type offered by the Institute for Higher Vocational Education at Eindhoven (Instituut voor Hoger Beroepsonderwijs/IHBO Eindhoven) are described briefly below.

IHBO Eindhoven's courses, offered as an example, are not unique; similar post-HBO courses are offered by a number of other higher vocational institutions, and it appears that such courses are becoming increasingly popular. Because curriculums vary according to demand and the resources of the institutions that provide them, and because many are new, it is not possible to provide a comprehensive overview of this type of program.

SAMPLE PROGRAMS

Two post-HTS courses (*post-HTS-cursussen*), one in business organization (*bedrijfsorganisatie*) and another in micro-electronics (*micro-elektronica*), are offered. The business organization course, which is also open to qualified graduates of other HBO programs, is designed to provide background in dealing with problems of business organization. A two-year program (about 40 weeks per year), it normally requires 8 hours of instruction per week. The micro-electronics course (including the study of microcomputers) is open to HTS electrical engineers and individuals with equivalent qualifications. It is applied in orientation, and consists of 158 hours of instruction divided into three independent blocks, which need not be followed sequentially: a digital block (96 hours of theory and laboratory), a project block (42 hours of theory), and an analog block (20 hours of theory).

A theoretical post-HLO (*post-HLO-cursus*) dealing with the latest developments in physical chemistry (*cursus fysische chemie*) is offered to suitably qualified graduates of the theoretical higher laboratory education program. This one and one-half year (about 60 weeks) evening course usually involves 4 hours of instruction per week.

A post-HEAO course (*post-HEAO-cursus*) trains the HEAO graduate to function as an administrative accounting consultant (*accountant administratieconsultent*). This part-time course takes two years to complete. Usually, there are 3 hours of instruction per week during the 40-week academic year.

For graduates of the higher schools of health care (*hogere scholen voor gezondheidszorg*/ HSG), a post-HSG course (*post-HSG-cursus*) in the supervision of trainees (*bijscholingscursus gezondheidszorg praktijkbegeleiding*) is offered. The course involves the equivalent of 30 days of fulltime instruction offered on a part-time basis in the evenings over a period of one year.

Other (Nonuniversity) Higher Education Programs (*Overig Hoger Onderwijs*)

Accountants' Training. Since 1967, the accounting profession has been regulated by the Netherlands Institute of Registered Accountants (Nederlands Instituut van Registeraccountants/NIVRA). NIVRA is a statutorily established professional association operating in cooperation with the Ministry of Economic Affairs (Ministrie van Economische Zaken). In addition to setting the standards in the profession and registering duly qualified professionals, NIVRA is also directly responsible for one of two training programs leading to the qualification of registered accountant (*registeraccountant*). The NIVRA program, though not formally part of the higher vocational (HBO) sector, is discussed below. The other program leading to the *registeraccountant* qualification is offered by five Dutch universities and is discussed briefly in Chapter 7.

Directly admissible to the NIVRA program in accountancy are applicants with VWO or HEAO diplomas. Those with other qualifications must pass entrance examinations at the VWO level in Dutch; English; French or German; mathematics; history and civics, or geography; economics and law.

A minimum of eight years is required to complete the program. Part-time courses are organized by NIVRA. Attendance is not required, however, and students may prepare for the examinations through correspondence courses or independent study. The program is divided into four stages, including periodic major examinations which may be repeated as necessary. The first or preliminary stage lasts two years, during which students normally attend classes one full day per week (usually Friday). In the second, third, and fourth stages, students attend NIVRA classes on Friday afternoons and Saturday mornings. The

first year exams for the preliminary stage cover introductory computer science, law I, and microeconomics I. The second year examinations cover bookkeeping, macroeconomics, and mathematics/statistics. Students with background deficiencies may also be required to pass examinations in applied bookkeeping, applied macroeconomics and applied mathematics during the first stage.

The second stage, or general stage, lasts three and one-half years. At the end of the first year (third year of the program) there are exams covering management, microeconomics II: cost analysis, and microeconomics II: finance. The second year (fourth of the program) exams cover law II, microeconomics III: value and profit, and tax law. One and one-half years later (five and one-half years into the program) students sit for an extensive accounting examination covering all phases of accounting and a case study.

The third stage, or elective stage, lasts one year. NIVRA classes prepare the student for an examination on one of the following elective subjects: accounting, business organization, mathematical decision-making, microeconomics, or tax law.

The fourth, or final stage, lasts one and one-half years. The final examination covers all aspects of auditing. While there are no formal stipulations regarding practical training, NIVRA officials point out that the nature of the examination makes it virtually impossible to pass without appropriate practical experience. In practice, most students are employed in accounting offices throughout the eight-year program.

A student successful in all examinations is registered with NIVRA and legally entitled to be called *registeraccountant*. The title *accountant* is also used, sometimes interchangeably, although it has a somewhat legal definition. In addition to the *registeraccountants* themselves, individuals employed under the direct supervision of a *registeraccountant* and certain public servants may also call themselves *accountant*. Consequently, the latter title has no precise definition in terms of educational qualifications.

Architects' Training. Architectural education (*onderwijs in de architectuur*) is offered by six institutions (*academies van bouwkunst*) which prepare students for careers as professional architects. In addition to other criteria specific to the profession, students must possess at least the HTO diploma in order to be considered for admission.

The program is six years in length and is part-time. Although formal instruction takes place primarily on Friday afternoons and Saturdays, it is a program requirement that the student be gaining practical experience in an architectural office during the remainder of the week throughout the course of study.

The Royal Military Academy. The Royal Military Academy (Koninklijke Militaire Academie), founded in 1826, is formally neither a part of the HBO nor the university sector, but falls directly under the jurisdiction of the Ministry of Defense. The Academy considers unmarried applicants between the ages of 17 and 24 who hold the VWO or appropriate HBO diplomas, although HAVO graduates may also be admitted with additional preparation. Both four- and five-year fulltime programs are offered. In addition to several variations of a modular five-year program in economics and finance (*economische en financiele studie*), there are five-year programs in the following areas of study: aeronautical engineering (*vliegtuigbouwkunde*), civil engineering (*weg- en waterbouwkunde*), electrical engineering (*elektrotechniek*), amd mechanical engineering (*werktuigbouwkunde*). Besides the four-year programs focusing on economics/logistics (*economische/logistieke richting*) and sociology and psychology (*sociologische en psychologische studie*), there are several four-year technical programs (*technische studie*) in aeronautical engineering and weapons technology (*wapentechniek* A and *wapentechniek* B).

All except the modular five-year economics and finance program have a preliminary year (*propaedeuse*), the first four months of which is devoted to general military training (*algemene militaire opleiding*). The first eight weeks consist of basic general military training

(*basis algemene militaire opleiding*/BAMO) and the next nine weeks of advanced general military training (*voortgezette algemene militaire opleiding*/VAMO). With the exception of the modular economics and finance program, each year, except the last, of all programs is followed by a further 11-week period of advanced general military training; the final year is devoted to specialized military training (*specialistische militaire opleiding*/SMO). In the modular economics and finance program, instruction in military science and military specialties takes place in an integrated fashion throughout the program. The number of hours of instruction per year varies somewhat, but about 1200 hours is most common. This includes laboratory and other practical periods, as well as roughly 120 hours of planned self-study periods per year, which are part of the daily class schedule. This figure does not include additional study time required by the cadet after the school day is over.

Somewhat comparable programs are offered by the Royal Naval Institute (Koninklijk Instituut voor de Marine) and the Netherlands Police Academy (Nederlandse Politie Academie).

AUTHOR'S NOTE: Unfortunately, details about the National School of Aviation (Rijksluchtvaartschool), which admits HAVO and VWO graduates to its fulltime two-year program, and the National Archivists' School (Rijksarchiefschool), which admits HAVO and VWO graduates to a two-year part-time program, could not be obtained for inclusion in this volume.

Chapter 5

Teacher Education

Introduction

Teacher training programs in the Netherlands, with the exception of those in the field of agriculture, fall under the jurisdiction of the Ministry of Education and Science, which determines the length of the programs, the broad features of the curriculum, monitors institutional final examinations, and sets minimum teacher qualifications required at the various levels and institutions. Subject to the same laws, the Ministry of Agriculture and Fisheries regulates agricultural teacher training programs in a similar fashion.

The preparation of teachers in the Netherlands varies greatly according to the level and type of institution for which the teachers are being trained. Even within a given sector, teachers with different educational backgrounds may have legally equivalent qualifications. This situation will become particularly evident over the next few years as important changes in the training of primary teachers are implemented.

Dutch educators, especially those involved with planning for the Ministry of Education and Science, have long been aware of the need for greater uniformity in teacher training programs and for improved professional preparation in educational theory and methodology. These concerns have led to reforms at both the primary and secondary levels. On the secondary level, new fulltime teacher education programs for the secondary sector have been organized, some older programs have been phased out, and some part-time programs upgraded in terms of their professional requirements. Perhaps even more extensive changes are taking place in the training of preprimary and primary teachers.

With the implementation in 1985 of the 1981 Primary Education Act, preprimary and primary schools will be merged into one new type of institution—the *basisschool* (basis or foundation school; see Chapter 2). This Act also mandated the establishment of a new type of primary teacher education institute, the *pedagogische academie basisonderwijs*/PABO, in 1983. The PABO was legally provided for by an amendment to the 1963 Secondary Education Act, which presently still regulates some aspects of higher vocational education. By 1987, these new programs will entirely replace the existing primary and preprimary teacher training programs.

As a result of the changes in both primary and secondary teacher preparation, after August 1983 all students beginning regular fulltime teacher education programs in the Netherlands were to be enrolled in tertiary programs generally of four years' length.

Consequently, there is little doubt that teacher education in the Netherlands is moving in directions that may in the future make it more readily comparable to programs found in the United States. The major features of the somewhat complex structure found at present are discussed in the following sections. For a graphic representation of the interrelationships among the major educational categories referred to below (e.g., MBO or HBO), see Table 1.3 in Chapter 1. For a list of teacher education institutions, see Appendix A.

Preprimary Teacher Education

Preprimary Teacher Education, Post-August 1983.

Preprimary teachers who have entered teacher education programs since the fall of 1983 will be trained in the new primary teacher education program for the new basis or foundation schools (*basisscholen*), which will serve children ranging in age from 4 to 12. The new teacher education academies (*pedagogische academies basisonderwijs*/PABOs) are discussed later in the section "The PABO—Teacher Education for the New *Basisschool*."

Preprimary Teacher Education Through August 1983.

The training of preprimary or nursery school teachers (*kleuterleidsters opleidingsschool*/KO) who entered teacher training programs before August 1983 takes place until 1987 at the upper secondary level (normally grades 11-13) in special vocational schools (*opleidingsscholen voor kleuterleidsters*/OKs) that are part of the intermediate vocational (MBO) sector. Applicants to the OKs had to be between 16 and 20 years old and have had at least an intermediate general secondary (MAVO) diploma or have successfully completed the first three years of either a higher general secondary (HAVO) or pre-university (VWO) program.

The basic three-year program of the OKs, the so-called A course, consists of a total of 3160 periods of 50 minutes each, including student preparation (study) periods, practical training, and flexible time. Table 5.1 lists the required and elective subjects and the number of periods allotted for each subject.

The A course is concluded by examinations that lead to the preprimary teaching certificate (*akte van bekwaamheid als leidster bij het kleuteronderwijs* or *akte van bekwaamheid als kleuterleidster*). The exams follow a pattern similar to that of general and pre-university institutions. They are conducted by the institution with the principal acting as head of the examining committee and are supervised by an appointee of the Ministry of Education and Science. The oral portion of the exam is given by the institution and covers child care, Dutch language & literature, education, hygiene, music, psychology, and teaching methods. The written portion, determined by a national board, covers the same subjects except for music. In addition to passing the exams, candidates must have a satisfactory rating in their practical training before they can be certified as teachers.

Those who hold the preprimary teacher's certificate (see above) may enroll in the part-time one-year course, intended for practicing teachers, that leads to the preprimary head teacher's or principal's certificate (*akte van bekwaamheid als hoofd-*

Table 5.1. Preprimary Teacher Education Program Through August 1983

Required Subjects	Number of Periods
Biology	120
Civics, History & Traffic Safety	160
Drawing (160 min.) & Manual Skills (160 min.)	480
Dutch Language & Literature	240
Education & Psychology	240
Hygiene & Child Care	120
Music	200
Physical Education	240
Practical Training*	800
Religious Instruction†	–
Speech	80
Teaching Methods	360
Electives‡	120
Total	3160

SOURCE: Adapted from *Training Teachers and Head Teachers for Preprimary Schools in the Netherlands* (The Hague: Ministry of Education and Science, 1971), pp. 4–6.

*Practical training is obtained in morning or afternoon blocks totaling at least 800 hours of which all but 100 hours are spent in preprimary schools. The flexible 100 hours may be spent in visiting primary institutions or schools offering special education programs.

†Permitted at private denominational schools.

‡Electives totaling up to 120 periods may be selected from the following: art history, Bible studies, creative play, cultural history of Christianity, drama, Esperanto, housekeeping, modern language (second), movies, nutrition and clothing, and religion in general.

leidster). This so-called B course consists of a maximum of 240 periods of 50 minutes each, of which at least 40 are in subjects of the institution's choosing. The minimum number of periods in required subjects is as follows: Dutch language & literature (36 periods), education & psychology (76 periods), teaching methods (76 periods), for a total of 188 periods.

Preprimary teachers have for some time been offered a part-time two-year retraining program (*applicatie cursus*) to upgrade their qualifications to a level that will fully qualify them to teach at the new *basisscholen*. Most preprimary teachers already have availed themselves of this opportunity, but those who have not still will be permitted to teach, though at a lower salary, provided they are employed when the transition from preprimary to *basisschool* occurs.

Primary Teacher Education

Primary Teacher Education, Post-August 1983

The PABO—Teacher Education for the New *Basisschool*.

The 1981 Primary Education Act, which will be implemented beginning in 1985, mandates a continuous preprimary and primary education program that will be

offered in a new type of primary school, the basis or foundation school (*basisschool*; see Chapter 2). To train teachers for the *basisschool*, beginning in 1983 the HBO-level *pedagogische academies*/PAs were merged physically and functionally with the MBO-level *opleidingsscholen voor kleuterleidsters*/OKs to form the new higher vocational (HBO) teacher education academies for basis education (*pedagogische academies basisonderwijs*/PABOs). The consolidation process has focused primarily on mergers between preprimary (OKs) and primary teacher training institutions (PAs) of the same type, i.e., public, Catholic, Protestant, etc. However, other mergers and the conversion or upgrading of individual institutions were also made possible. Altogether a total of only 65 of the new academies for primary teacher education are planned for the entire country because officials of the Ministry of Education and Science have determined that larger institutions tend to operate more efficiently in terms of fiscal resources and can offer a wider range of subjects to the student.

Instructors of the old-style primary schools are automatically considered qualified to teach at the new *basisschool*. However, all teachers will be offered in-service training courses to assist them in making an effective transition to the new system.

Program Description. The four-year PABO program, which is part of the higher vocational (HBO) sector, prepares teachers to teach in all grades of the new *basisschool* (the former two grades of preprimary school and grades 1 to 6). However, individual teacher training institutions may permit varying degrees of specialization, and the Ministry of Education and Science is encouraging preparation for team teaching. As inother new higher vocational (HBO) programs, there is a preliminary year (*propaedeuse*) which provides an orientation to the program of study and the teaching profession, and serves as a screening period both in terms of student self-selection and institutional assessment of the student's compatibility with the program. Included in the program is a substantial practical training component. (One Ministry of Education and Science task force recommended at least 720 hours of practical training.) The new institutions are totally dedicated to primary teacher education and will no longer offer programs leading to the third- or lowest-level secondary teaching qualification (*derdegraadsbevoegdheid*). As with other higher vocational (HBO) programs, the higher general secondary diploma (HAVO) will be the minimum requirement for admission, although students with comparable and more advanced qualifications, such as the pre-university (VWO) diploma, will also be considered.

Early in 1980 at the request of the Ministry of Education and Science, the Foundation for Curriculum Development (Stichting voor Leerplanontwikkeling, SLO) began development of a model curriculum that would serve as a framework and stimulus for individual institutions developing their own programs. At the institutional level all instructors would share in the responsibility for curricular planning although the extent to which curricular components and specific content may be required by the Ministry is still being explored. However, it is apparent that it will be necessary for all schools to cover the required subjects taught at the *basisschool* and to offer a professional education core.

Among other things, the SLO proposes that four key considerations determine

the content of the curriculum: First, and perhaps most importantly, the development of professional teaching skills; secondly, the content of the primary school curriculum; thirdly, the teaching methods appropriate to the primary school curriculum; and finally, room for the personal growth achieved through the selection of suitable electives. The SLO suggests that the following subjects be included: art education, audio-visual communication, cultural-social education, dance education, drama education, English (perhaps German in addition or as an alternative), general education, health science, humanities & social sciences, mathematics, mime, movement (physical) education, nature (science) education, native language (Dutch or Frisian, and possibly others), traffic (safety) education, writing, and, wherever applicable, the teaching methods for specific subjects best suited to the primary school.

The Ministry of Education and Science has adopted a standard of 1700 hours of study per year for all tertiary programs, including student preparation (study) time. Table 5.2 gives the breakdown of the major components of the curriculum recommended by the Innovation Commission for Primary Teacher Education (Innovatie Commissie Opleiding Basisonderwijs) based on a 6800-hour program.

Table 5.2. **Curriculum Components, New Primary Teacher Education Program (PABO)**

	Area		Number of Hours
I.	Subject Matter Component (including Teaching Methods)		
	Basic Cultural Skills		1200
	Study of Nature and Society		1200
	Expressive Activities and Physical Education		1400
		Total	3800
II.	Professional Education Component		
	Education in General		800
	Institutional and School Practice		1600
	Teaching Methods (included in I above)		–
		Total	2400
III.	Institutional Discretionary Component		600
		Grand Total	6800

SOURCE: Adapted from *Eerste Advies aan de Minister van Onderwijs en Wetenschappen– de Structuur van een Lerarenopleiding voor het Basisonderwijs* (The Hague: Ministry of Education and Science, 1980), p. 52.

Primary Teacher Education, 1968 to 1983

The Pedagogical Academies/PAs

In 1968, a three-year program with a 2-1 structure was implemented. It is expected that this program will be phased out by 1987. The higher vocational

(HBO) institutions offering this three-year fulltime program are known as *pedagogische academies*/PAs.

Admission to the program was based on a minimum of 11 years of formal education, i.e., at least a higher general secondary school (HAVO) certificate. (However, frequently students have had at least 12 years of formal education because VWO and certain MBO graduates are also admitted; see below).

Advancement to the final year was initially contingent upon the results of the examinations following the first phase. In August 1970 the program was defined as being "continuous" in the sense that a basic teaching certificate could no longer be obtained after the first phase (the second year). In spite of the structural changes, the major features of the pre-1968 curriculum were retained in the three years of the program.

Before abolition of the divided structure in 1970, successful completion of the initial two-year phase of the program and the passing of institutional examinations, supervised by the Ministry of Education and Science, led to basic certification as a teacher (*akte van bekwaamheid als onderwijzer*), as did completion of the second phase of the pre-1968 *kweekschool* program. The final year, known as training for fully qualified teachers (*opleiding tot volledig bevoegd onderwijzer*), led, upon successful completion of the program and the passing of further examinations, again supervised by the Ministry, to the corresponding full teacher certification (*akte van bekwaamheid als volledig bevoegd onderwijzer*). This qualification corresponds to the pre-1968 head teacher's qualification (*akte van bekwaamheid als hoofdonderwijzer*) awarded upon completion of the *kweekschool* program. Since the implementation of the unified three-year program in 1970, the *akte van bekwaamheid als onderwijzer* has been phased out.

The *pedagogische academies*/PAs, like many other higher vocational (HBO) institutions, consider applicants with the following qualifications for admission: a pre-university (VWO) diploma; the former combined commercial/pre-university (HBS) diploma (see "Historical Notes on Secondary Education," Chapter 2); the present higher general secondary (HAVO) diploma; certain intermediate vocational (MBO) diplomas, including the intermediate vocational general preparatory (VHBO) diploma for higher vocational education, the economic and administrative (MEAO) diploma, and the technical (MTO) diploma; the preprimary teaching certificate (*akte van bekwaamheid als leidster bij het kleuteronderwijs*); and other diplomas deemed acceptable by the Ministry of Education and Science. All of these represent at least 11, and in most cases 12 or more, years of formal education. Many of the PAs have higher general secondary (HAVO) divisions attached to them that offer the last two years of the HAVO curriculum. Such institutions will admit applicants with a four-year intermediate general secondary (MAVO) diploma or its equivalent to their HAVO departments to continue in teacher education studies. The HAVO departments, however, are being abolished with the integration of preprimary and primary teacher education (see above).

Direct admission into the third year of the present primary teacher education program is possible for individuals who hold the old-style first-level teaching certificate (*akte van bekwaamheid als onderwijzer*) or who have passed the first

section of the state examination for fully qualified teachers (*staatsexamen volledig bevoegd onderwijzer*).

The three-year primary teacher education program consists of approximately 3116 50-minute periods including electives and student teaching. Table 5.3 shows the curriculum offered at the *pedagogische academies*.

Students who have satisfactorily completed the three-year PA program take the final examinations held at the institution under the supervision of the Ministry of Education and Science. Members of the faculty, headed by the principal, conduct the exams. A commission consisting of Ministry appointees is responsible for the written portion of the exam which covers cultural & social studies, Dutch language & literature, education, educational & child psychology, and the teaching methods for an academic subject (arithmetic, biology, geography, history, or physics) and an expressive subject (crafts, drawing, music or physical education) selected by the student for special study in the final year.

Successful candidates receive a primary teaching certificate (*akte van bekwaamheid als volledig bevoegd onderwijzer*) which legally certifies them as fully qualified teachers for grades one through six. Individuals who prepare themselves for the teaching profession through self-study or through courses offered by institutions not recognized by the Ministry may take the state examination (*staatsexamen*), which leads to the same qualifications.

Table 5.3. **Primary Teacher Education Program of the *Pedagogische Academies*, 1972**

Required Subjects	Number of Periods
First and Second Years (Former Part I)	
Arithmetic	80
Art	160
Aspects of Cultural & Social Life	120
Biology	80
Dutch Language & Literature	280
Education, Educational/Child Psychology, General Teaching Methods, Intro. to Teaching Methods for Primary School Subjects	280
Geography	80
Handicrafts	160
History	80
Music	240
Physical Education	160
Physics	80
Practice Teaching	240
Religious Education*	–
Speech Improvement	10
Traffic Safety	20
Writing	40
Electives†	80
Total	2190

(*continued*)

Third Year (Former Part II)	
Cultural & Social Life	70
Dutch Language & Literature	140
Education, Educational/Child Psychology	180
Observation/Participation‡	290
Physical Education	70
Teaching Methods (for one subject selected from Arithmetic, Biology, Geography, History, Physics; and for one subject selected from Crafts, Drawing, Music, or Physical Education)	140
Electives†	36
Total	926
Grand Total	3116

SOURCE: Adapted from *Primary School Teacher Training* (The Hague: Ministry of Education and Science, 1972), pp. 3–5.

*Offered at private denominational institutions.

†Electives include the following: aspects of spiritual life, Bible study, child care, drama, Esperanto, film-making, French, Frisian, German, history, home econ., Latin, math, philosophy, and recitation.

‡At least 145 periods must be spent in primary schools; the remaining 145 periods may be spent in other approved institutions (e.g., those offering special education, preprimary schools, secondary schools, vocational schools, university departments of education and psychology, school advising services, or any other institution approved by field experience supervisors).

Fully qualified teachers, as previously mentioned, are legally eligible to fill the position of principal. They are also considered to have third- or lowest-level secondary teaching qualifications (*derdegraadsbevoegdheiden*) in general subjects such as arithmetic, biology, Dutch, geography, and history.

Grading is based on a 1-10 scale. For more information on the grading system, see Chapter 9. For a sample primary teaching certificate and grade list, see Documents 7a, b, & c in Appendix B. Graduates of the teacher education institutes are admissible to the following programs : the school music teacher's certificate (*akte muziekonderwijs* B-*schoolmuziek*) program, the speech pathologist's and audiologist's (*opleiding voor logopedie-akoepedie*) program, new secondary teacher education (*nieuwe lerarenopleiding*/NLO) programs, university programs in psychology and education, and the Gehrels and Ward music diploma program.

Although formal preparation in special education is presently not required for special education teachers, a two-year part-time course is available to primary school teachers who wish to obtain professional preparation in the field.

Pre-1968 Primary Teacher Education

Prior to the 1968 implementation of the 1963 Secondary Education Act, which also regulated higher vocational education including most teacher education programs, the primary teacher education program was a total of five years in length and followed a 2-2-1 pattern. The institutions offering this program were known as *kweekscholen*. The minimum requirement for initial admission to the program was the pre-1968 version of the intermediate general secondary certifi-

cate (MULO) awarded after grade 10. Admission to each successive phase of the program was dependent upon successful completion of the previous segment and the final exam. Graduates of the pre-university and higher general secondary programs (generally years 11 or 12), such as those offered by the *gymnasium*, *hogere burgerschool*/HBS (a forerunner of the present *atheneum*), or *middelbare meisjes school*/MMS (a girls' school similar to the modern HAVO), could be admitted directly into the third year, i.e., the beginning of the second phase.

Intended for those admitted with only a tenth grade education, the two-year first phase concentrated on general studies subjects including art & design, biology, chemistry, Dutch language & literature, English, French, geography, German, handicrafts, history, mathematics, music, needlework for girls, physical education, and physics. In the two-year second phase the general subjects were continued, but only one foreign language was selected, and Dutch society, educational philosophy, educational theory, teaching methods in general and specific methods for each primary school subject were introduced.

Upon successful completion of the second phase (normally the fourteenth year), students took institutional examinations supervised by the Ministry of Education and Science. Successful candidates were awarded the basic teaching certificate (*akte van bekwaamheid als onderwijzer*) which entitled the holder to teach in the primary grades (1-6) but not to be promoted to head teacher (principal). Since 1970, this qualification has been phased out (see discussion earlier in this chapter).

In the year-long third phase, approximately half of the time was devoted to Dutch language and professional education courses; the rest was spent in practical participation in primary schools and in preparing reports about these experiences. Those completing the third phase and the institutional final examinations received a head teacher's (principal's) certificate (*akte van bekwaamheid als hoofdonderwijzer*). In addition to qualifying the graduate to teach in grades 1 to 6, this qualification legally entitled the holder to fill the position of head teacher (principal) and to teach general subjects at the lower and intermediate general secondary level.

Secondary and Vocational Teacher Education

Levels of Secondary and Vocational Teaching Qualifications

Regardless of the nature of the teacher education program, there are essentially three levels of secondary and vocational teaching qualifications. The first- or highest-level certificate (*akte van bekwaamheid van de eerste graad* or *eerstegraadsbevoegdheid*) entitles the holder to teach at any type of general secondary or higher vocational institution offering the subject for which the certificate is held. The first- or highest-level qualification is mandatory for those teaching in the upper two grades of higher general secondary (HAVO) and the upper five grades of pre-university (VWO) programs in academic subjects, and is required also of all full-fledged instructors at higher vocational (HBO) institutions. This first- or highest-level secondary and vocational qualification may in most fields

be obtained by university graduates with supplementary training in education, although preparation through higher vocational (HBO) programs (as in the academies for visual arts, discussed later in this chapter) is possible in some cases and part-time programs, though sometimes affiliated with the universities, are currently not normally offered by the universities themselves.

The second-level certificate (*akte van bekwaamheid van de tweede graad* or *tweedegraadsbevoegdheid*) is somewhat more limited, and does not entitle one to teach in university preparatory (VWO) institutions, except for the first or "transition" year (*brugjaar*) class, nor in grades 11 and 12 of higher general secondary school (HAVO). It is intended for instructors of the lower three grades of HAVO (grades 7-9), and intermediate vocational (MBO, grades 11-14) programs.

Those in possession of a third- or lowest-level certificate (*akte van bekwaamheid van de derde graad* or *derdegraadsbevoegdheid*) may teach only in intermediate general secondary programs (MAVO, grades 7-10), lower general secondary programs (LAVO, grades 7-8), or lower vocational programs (LBO, grades 8-10). Second-, and third- or lowest-level secondary and vocational teaching qualifications (*tweede- en derdegraadsbevoegdheiden*) are generally attained at higher vocational (HBO) institutions.

Under the 1963 Secondary Education Act, implemented in 1968, vocational education (LBO, MBO, and HBO) and general secondary education (LAVO, MAVO, HAVO, and VWO) are subject to many of the same regulations governing the qualifications of teachers. However, there are some important differences between the academic and vocational sectors. Vocational instructors frequently not only prepare the student for responsible employment, but as a rule work with older students than do instructors with the same level qualification in an academic subject.

A second-level credential in a vocational subject, for example, entitles the holder to teach in intermediate vocational (MBO) schools, which in some cases extend through the fourteenth year of formal education, i.e., two years beyond the total for pre-university programs. First- or highest-level qualifications (*eerstegraadsbevoegdheiden*) are required of faculty at higher vocational (HBO) institutions which are presently considered part of the tertiary education sector by the Dutch (and are treated as such in this volume). The students involved generally are the same age as university students, and many, especially in popular programs like those offered by the higher technical schools (HTS), hold pre-university qualifications at the time of admission. Legislation to regulate higher vocational and university education generically as higher education (*hoger onderwijs*) in the future has already been drafted by the Ministry of Education and Science and its implementation is a virtual certainty. Thus, the function and status of HBO faculty is likely to become more similar to that of university faculty in the future.

Programs for First-, Second-, Third-Level Teaching Qualifications

Fulltime Preparation for First- or Highest-Level Teaching Qualifications

Completion of a pedagogical certificate in addition to the *doctorandus*, *meester in de rechten*, or *ingenieur* degree gives university graduates the right to teach certain

subjects at the first- or highest-level (*eerstegraadsbevoegdheid*)—i.e., in the upper two grades of higher general secondary (HAVO) programs, the upper five grades of pre-university (VWO) programs, or at higher vocational (HBO) institutions. The required practical and theoretical preparation in professional education may be acquired while the student is working toward the degree or separately at a later time. In either case the professional education component is not a major hurdle at this time for those who wish to teach.

Under the new two-phase structure of university programs, to be implemented in the fall of 1986, the preparation of teachers with first- or highest-level qualifications will become possible only after the completion of a first degree. Admission will be selective. The *doctorandus*, *meester in de rechten*, or *ingenieur* degree will not in itself admit the graduate into the teacher education program. Grades received and courses included in the student's program will probably be taken into account. This new second phase university teacher education program is expected to be six months in length. Details concerning the curriculum are not yet available since the first university graduates from the new four-year *doctoraal* are not expected to be admitted until the fall of 1986. There is still a great deal of uncertainty about the actual implementation of such a phase two program at the Dutch universities. Recent discussions have raised the possibility that higher vocational (HBO) institutions might provide the professional education sequence to university graduates qualifying for the first- or highest-level secondary teaching qualifications.

Fulltime Second- and Third-Level Teaching Qualifications

The preparation of secondary and vocational teachers, long fragmented along disciplinary lines, was experimentally restructured in 1970 with the creation of the higher vocational "institutes for the new teacher education" (*instituten voor de nieuwe lerarenopleiding*/NLOs). Although the new teacher education institutes have gone beyond the experimental stage, they presently coexist with some earlier types of secondary teacher education also considered part of the higher vocational sector. The success of the NLOs, however, has moved them officially into the mainstream for the preparation of secondary and vocational teachers with second- and third- or lowest-level credentials (*akte van bekwaamheid van de tweede graad en derde graad*, or *tweede- en derdegraadsbevoegdheiden*). The new institutes' fulltime programs, their cooperation with the universities, and their attention not only to subject matter to be taught but also to educational theory and methodology have contributed significantly to the professionalization of secondary teacher education.

Applicants to NLO programs must possess one of the following: pre-university (VWO) or higher general secondary (HAVO) diplomas, certain intermediate vocational (MBO) or any higher vocational (HBO) diplomas, or comparable qualifications.

All programs include a strong professional component with theoretical as well as practical preparation in education. Students select a major and a minor subject. The possible choices vary from institution to institution. For example, in

the NLO program offered by the Nederlandse Genootschap tot Opleiding van Leraren voor het Beroepsonderwijs at Eindhoven only institutionally fixed combinations are possible. See Table 5.4 for a listing of the majors and minors offered by the institutes currently in operation. It is evident from the table that while the new institutes for teacher education offer vocational as well as academic subjects, some programs, (e.g., agricultural) are not included. For a discussion of these programs, see "Teacher Education Programs in Specified Areas of Study," later in this chapter.

The major field may be pursued to the level required for either the second- or third-level qualification. For most subjects a model of successive instruction is employed, i.e., the subject is first covered to the depth required for the third- or lowest-level qualification followed by further instruction to the extent necessary for the second-level qualification. The minor is always pursued only to the extent required for the third- or lowest-level qualification, although a second-level qualification is awarded in both the major and minor if the examination in the major subject is passed at that level. The entire program leading to a second-level qualification in both subjects may be completed in four and one-half years. A third- or lowest-level qualification in both subjects may be attained in four years.

Each of the new teacher education institutes has a close cooperative relationship with one or more universities, which allows it to share the responsibility for the nature and content of the curriculum as well as the level of the institute's examinations. Because of this cooperative arrangement and the monitoring of standards by the Ministry of Education and Science, the institutes are legally empowered to grant the teaching credential (*akte van bekwaamheid*) at the second or third level (*van de tweede graad* or *van de derde graad*) in the subjects for which the examinations were passed. The cooperating universities not only participate in developing a curriculum and setting standards for their associated teacher education institutes, but also, on an experimental basis, offer those graduates who attain the second level teaching qualification admission to and advanced placement in appropriate related university programs (see Chapter 7, "Transfer Between Higher Vocational Institutions and the Universities"). Because advanced placement decisions involve university offices ranging from the faculty (school) to the department or even program level and are made jointly with the associated institutes, no generalizations can be made regarding the starting level of students taking advantage of this opportunity.

Graduates of higher technical schools (HTS) are eligible for third- or lowest-level teaching qualifications in technical and scientific subjects. Graduates of other higher vocational (HBO) programs may also be eligible for third- or lowest-level teaching qualifications in certain subjects.

Part-Time Training of Secondary Level Teachers

It is at present still possible to prepare privately (usually on a part-time basis) for a state examination (*staatsexamen*) that leads to a single-subject teaching certificate at the first or highest level, known as MO *akte*-B, or simply, MO-B (*middelbaar onderwijs-akte*-B). Similarly, a single-subject second-level qualification is known as MO *akte*-A, or just MO-A (*middelbaar onderwijs-akte*-A). In some subjects where

no distinction is made between A and B certificates, the MO *akte* represents a first- or highest-level qualification. All MO *akte* must be accompanied by proof of

Table 5.4. Majors Available at Selected New Secondary Teacher Education Institutions

Institution/ Location	Chr. Leraren-opleiding/ Zwolle	De Gelderse Leergangen/ Nijmegen	De Witte Lelj/ Amsterdam	Katholieke Leraren-opleiding/ Sittard	Leraren-opleiding Vrije Leer-gangen Vrije Universiteit/ Amsterdam
in cooperation with	Free U., Amsterdam	Cath. U., Nijmegen	U. of Amsterdam	Cath. U., Nijmegen, Eindhoven Tech. U.	Free U., Amsterdam, Cath. U., Tilburg
Subjects					
Autom. Tech. I & II	–	–	–	–	–
Biology	–	X	X	–	X
Chemistry	–	–	X	–	X
Construction I & II	–	–	–	–	–
Const. Tech. I & II	–	–	–	–	–
Drafting I & II	–	–	–	–	–
Drawing	X	X	X	–	X
Dutch	X	X	X	X	X
Economics	–	–	–	–	X
Elec. Tech. I & II	–	–	–	–	–
English	X	X	X	X	X
Etiquette	–	–	X	–	X
French	–	X	X	–	X
Geography	–	X	X	X	X
German	–	X	X	–	X
Handicrafts	X	X	X	–	X
Health Education	–	X	X	–	X
History	–	X	X	X	X
Home Economics	–	X	X	–	X
Mathematics	X	X	X	X	X
Mech. Tech. I & II	–	–	–	–	–
Physics	X	X	X	X	X
Religion	–	–	–	–	X (Prot.)
Social Studies	–	–	–	–	X
Textile Arts	–	X	X	–	X
Tool Making I & II	–	–	–	–	–

(continued)

Institution/ Location	Leraren-opleiding Zuidwest-Nederland/ Delft	Moller-instituut/ Tilburg	Ned. Genoots-chaptot Opl. van Leraren v.h. Beroeps-onderwijs/ Eindhover	Stichting Opleiding Leraren/ Utrecht	Stichting Ubbo Emmulus/ Groningen Leeuwarden
in cooperation with	State U. of Leiden, Delft U. of Tech., Erasmus U., Rotterdam, Free U., Amsterdam	Cath. U., Nijmegen, Eindhoven U. of Tech., Cath. U., Tilburg	Eindhoven U. of Tech.	State U. of Utrecht, Agric. U. of Wageningen	State U. of Groningen
Subjects					
Autom. Tech.	–	–	X	–	–
Biology	X	X	–	X	X
Chemistry	–	X	–	X	X
Construction I & II	–	–	X	–	–
Const. Tech. I & II	–	–	X	–	–
Drafting I & II	–	–	X	–	–
Drawing	X	X	–	X	X
Dutch	X	X	–	X	X
Economics	X	X	–	–	X
Elec. Tech. I & II	–	–	X	–	–
English	X	X	–	X	X
Etiquette	–	X	–	X	–
French	X	X	–	X	X
Geography	X	X	–	X	X
German	X	X	–	X	X
Handicrafts	X	X	–	X	X
Health Education	X	X	–	X	X
History	X	X	–	X	X
Home Economics	X	X	–	X	X
Mathematics	X	X	X	X	X
Mech. Tech. I & II	–	–	X	–	–
Physics	X	X	X	X	X
Religion	–	X (Cath.)	–	–	–
Social Studies	X	X	–	–	X
Textile Arts	X	X	–	X	X
Tool Making I & II	–	–	X	–	–

Source: Adapted from *Studiemogelijkheden aan Dagscholen voor Hoger Beroepsonderwijs* (The Hague: Ministry of Education and Science, 1961), p. 94.

sufficient professional training in education known as *akte* Q or *bewijs van pedi*. The corresponding third- or lowest-level qualification is known as LO–*akte* (*lager onderwijs-akte*). Until recently MO programs were in the mainstream for preparing for first- or highest-level and second-level teaching qualifications and were offered by special university departments as well as nonuniversity institutions. There are presently eight government-supported nonuniversity institutions offering MO-A and MO-B programs considered part of the higher vocational (HBO) sector. Since 1979 closely regulated institutional examinations, following the legal requirements of the state examinations, have been available to students in the state-supported programs leading to these qualifications.

Primary teacher education academies (*pedagogische academies*) offer two-year part-time LO programs that prepare students for the state examinations for the third- or lowest-level qualification in various subjects. These programs will disappear as the new PABOs (new institutions for primary teacher education) replace the existing institutions. The part-time third- or lowest-level teacher education programs will probably be taken over by the institutions now offering the government-supported MO programs.

MO programs vary somewhat by subject and from one institution to another. Since 1981 the restructuring of many programs has also been underway. Current representative examples are the MO-A and MO-B programs in English offered by the Instituut VL-MO of the Stichting Vrije Leergangen, affiliated with the Free University, Amsterdam. The institute's four-year MO-A program in English is open to students with the HAVO diploma or with comparable or higher qualifications. Allowing for vacation periods, classes are in session about 40 weeks (or slightly less) per year. Typically, students attend four-hour classes twice a week in the afternoon or evening. The MO-A curriculum covers the following courses: cultural studies, grammar, listening, phonetics, reading, speaking, teaching methods, and translation. Use of a modern language laboratory is included in the program. Optionally, students may take an examination for the third- or lowest-level secondary teaching qualification after the third year.

The institute's VL-MO's five-year MO-B program in English is open to those with the following qualifications in English: MO-A diploma, second-level secondary teaching qualification from an NLO, or the *kandidaatsexamen* from a Dutch university. The MO-B program's academic calendar of 40 weeks per year includes approximately five hours of instruction per week. The MO-B syllabus covers the following courses: American literature, English literature, history of the English language, literary analysis, Middle English, modern syntax, and Old English. MO-A and MO-B diplomas in state-supported programs are awarded on the basis of a number of qualifying examinations (*tentamen*) taken throughout the program which cover major segments of the curriculum. The so-called MO-A or MO-B *examen* is a cumulative report of the results of these examinations.

MO and LO programs concentrate on only a single subject and are intended as part-time alternatives to university *doctoraal* programs and the fulltime programs of study offered by the new secondary teacher education institutes (NLOs). In determining transfer credit for these part-time programs, it may prove useful to consider the following approximate equivalencies between part-time and the corresponding fulltime programs. Study of a major subject at an NLO for a third-

or lowest-level secondary teaching qualification is considered roughly comparable to part-time study for the LO-*akte*. Similarly, in a given subject study at an NLO for the second-level secondary teaching qualification is thought to be at about the same level as study in a MO-A program in some cases or as required for the university *kandidaatsexamen*. The MO-B qualification in a particular subject approaches the level required in that subject for the *doctoraalexamen*.

Teacher Education Programs in Specified Areas of Study

Second- and Third-Level Qualifications in Agriculture. Students wishing to teach agriculture at the secondary level may enroll in the new four-year agricultural teacher education program (*nieuwe agrarische lerarenopleiding*) offered by higher vocational (HBO) schools of agriculture (see Chapter 4), which incorporates the first two and one-half years (*propaedeuse* and *ing-I-fase*) of the standard programs in agriculture. This foundation in general studies and agricultural theory and practice is followed by a one and one-half year teacher education program, which blends practical and theoretical knowledge of the speciality with professional training in education that leads to a third- or lowest-level teaching certificate. Successful graduates may pursue a further year-long program for a second-level qualification. Broadly defined majors are available in plant breeding and the processing of plant products, animal science and meat processing, and agricultural technology.

One older form of teacher preparation still viable in the field of agriculture is a two-year higher vocational (HBO) program that leads to a third- or lowest-level horticultural credential (*akte* L V). The first year is divided roughly between practical and theoretical training in one of the following specialities: vegetable, flower, or fruit and ornamental tree culture The second year is devoted primarily to training in educational theory and practice. Graduates of higher or intermediate agriculture (HLO or MLO) schools with majors in horticulture may be considered for admission to this program. The *akte*-L series originally covered a number of agricultural specialties indicated by Roman numerals I-X.

All agricultural programs are regulated by the Ministry of Agriculture and Fisheries, but subject to all applicable national educational legislation.

Health Care Instructors' Training. The training program for instructors in institutions offering vocational programs in the health care field (*opleiding tot docent te behoeve van instellingen voor gezondheidszorg*) is also a part of the higher vocational (HBO) sector. For information on these programs, see "Health Care Instructors' Training," in Chapter 4.

Music Teacher Education. Music teacher education academies (*muziekpedagogische academies*) and conservatories (*conservatoria*) are higher vocational (HBO) institutions that among others offer programs to prepare instructors of instrumental/vocal music (*docent instrumentale/vocale opleiding*), general music education teachers (*docent algemene muzikale vorming*), school music teachers (*docent schoolmuziek*), and teachers of rhythm (*docent ritmiek*). The instrumental/vocal music teacher education program is a variant of the general instrumental/vocal music program discussed in Chapter 4 and is intended primarily for those preparing to give private instruction or to teach at a school of music. The general music education teacher's certificate (*muziekonderwijsakte* A-*algemene muzikale vorming*/A-AMV) enables the holder to teach at nonacademic institutions and in preprimary school through ninth grade. The school music teacher's certificate (*muziekonderwijsakte* B-*schoolmuziek*) is valid at pre-university (VWO) and higher vocational institutions. The duration of study in all programs is usually five to six years but may vary somewhat depending on the major subjects chosen.

The Preparation of Teachers of Theater Arts and Dance. The higher vocational (HBO) institutions offering training for the theater (*theateronderwijs*) also offer programs that prepare teachers of mime, dance, and drama. The teacher education programs are variants of the standard four-year programs offered in these areas. See "Theatrical Training" in Chapter 4 for a description of these programs.

First- or Highest-Level Qualifications in the Visual Arts. An exception to the general rule that fulltime first- or highest-level secondary teacher preparation takes place at the universities is the program offered by the academies for visual arts (*academies van beeldende kunsten*). The academies are by definition higher vocational (HBO) institutions yet offer programs leading to a first- or highest-level teacher diploma in the fields of drawing, handicrafts, and textile techniques. No comparable programs are offered by the universities.

Applicants to the five-year drawing/handicrafts/textiles teacher education program (*lerarenopleiding 'tehatex'*) must possess a pre-university (VWO) or higher vocational (HBO) diploma. Graduates who have earned a second-level teaching credential from one of the new teacher education institutes (NLOs) in one of the fields in question, may, however, be admitted directly to the fourth year of the program. As in all programs offered by the visual arts academies (see Chapter 4), the first or foundation year (*basisstudie*) is followed by two years of preparatory studies for the major and concludes with a further two years of professional study in the major itself. During the last two years a six-month practical training period is spent in institutions offering instruction in the trainee's major field.

Older Vocational Qualifications (N-*Akte*)

At present, with some exceptions, second- and third- or lowest-level qualifications (*tweede- en derdegraadsbevoegdheiden*) in vocational subjects can be obtained by studying at one of the new secondary teacher education institutes (NLOs) offering the desired field of specialization. In the past, part-time programs leading to vocational credentials known as N-*akte* were available. These were essentially third- or lowest-level qualifications (*derdegraadsbevoegdheiden*), but could be upgraded to second-level qualifications (*tweedegraadsbevoegdheiden*) by means of a short course.

Chapter 6

Nursing Education

General Information

Presently two distinct categories of programs for the training of nurses exist in the Netherlands: hospital training programs, regulated by the Ministry of Public Health and Environmental Hygiene (Ministerie van Volksgezondheid en Milieuhygiene); and, since 1972, vocational school programs at both the intermediate vocational (MBO) and higher vocational (HBO) levels, regulated by the Ministry of Education and Science (Ministerie van Onderwijs en Wetenschappen). The most important distinction between the two programs is that the hospital programs lead to narrowly defined vocational qualifications, while the vocational school programs lead to academic credentials that are comparable to other MBO and HBO diplomas. These academic qualifications provide broader opportunities for job placement and for access to further education. Graduates of both the academic and hospital programs are registered with the Ministry of Public Health and Environmental Hygiene for purposes of practicing their profession. Both the academic and hospital programs employ the prevalent 10-point grading scale discussed in Chapter 9.

Hospital Training Programs for Nurses

Hospital training programs for nurses fall into the following four categories: *A-verpleegkundige* (A-nurses), who serve in general hospitals; *B-verpleegkundige* (B-nurses), who work in psychiatric hospitals; *Z-verpleegkundige* (Z-nurses), who care for the mentally handicapped; and *ziekenverzorgende* (nurses), who work in nursing homes. The diplomas issued correspond in name to these designations.

Admissions requirements are the same for all of the hospital training programs. These programs are open to applicants who will have reached the age of 17 years and 7 months by the beginning of the training period. A tenth grade general education, i.e., MAVO, or an acceptable equivalent, is required for admission. Usually, applicants must also provide the results of a physical examination showing them to be in good health.

While in training, student nurses are considered fulltime employees of the teaching hospital. Every aspect of these programs is regulated by the Ministry of Public Health and Environmental Hygiene. The teaching staff consists, in general, of hospital employees, particularly nurses, but also physicians and other staff members such as laboratory or medical technicians, depending on the subject. Occasionally, arrangements may be made with a nearby school for some of the theoretical instruction, subject to Ministry approval.

Program for Nurses in General Hospitals. The general nursing (*A-verpleegkundige* or A-nurses) program is three and a half years in length and is divided into three phases. The first two phases are each 12 months in length and the last, 18.

The theoretical side of the training includes a minimum of 850 50-minute periods, although the Chief Medical Officer of the Ministry may under unusual circumstances temporarily waive the minimum number of hours of instruction required in a particular case. The following subjects are covered: anatomy & physiology, bandaging, care & feeding of diabetics, first aid, general education subjects, general pathology, history of nursing, human reproduction, hygiene, internal medicine, nursing (theory), nutrition, pediatrics, physics & chemistry, professional ethics, psychiatry, psychology, psychopathology, social health care, sociology, surgery, and other areas of specialization.

Practical training, under the guidance of qualified nurses, requires experience in each of the following areas for the minimum number of weeks indicated: maternity ward, 16 weeks; medical ward, 24 weeks; pediatric ward, 12 weeks; and surgical ward, 24 weeks. Student nurses maintain a practice and report book documenting their experience according to specific guidelines. Each phase of the program is concluded by an examination. The final examination, given after the third phase, consists of a national written examination and an institutional oral examination.

General nurses (A-nurses) are admissible to the following higher vocational (HBO) programs: higher (administrative and management) training for nurses (*hogere opleiding voor verpleegkundige*/HOV); training for public health nurses (*opleiding tot verpleegkundige in de maatschappelijke gezondheidszorg*/MGZ); and training for instructors in health care institutions (*opleiding tot docent ten behoeve van instellingen voor gezondheidszorg*).

Training of Nurses for Psychiatric Hospitals. The psychiatric nursing (*B-verpleegkundige* or B-nurses) program is three years in length and is divided into three phases of 12 months each. The theoretical side of the training includes a minimum of 1060 50-minute periods and covers the following subjects: adult education, psychiatry, psychiatric nursing, and psychology (50%); anatomy & physiology, health science, somatic nursing, and somatic pathology (31%); and communication studies (expression), physics & chemistry, and sociology (19%). During each of the three phases the student nurses prepare reports on both nursing and general studies subjects.

Practical training, under the guidance of qualified nurses, includes experience in each of the following areas: geriatric psychiatry, long-term patient treatment, patient re-establishment in society, and short-term clinical treatment. Student nurses are required to maintain a practice and report book documenting their experience according to specific guidelines. An examination is given at the end of each phase. The final examination after the third phase is both oral and written.

Psychiatric nurses (B-nurses) are admissible to the same higher vocational (HBO) programs as general nurses (see above).

Training of Nurses for the Mentally Handicapped. The program training nurses for the mentally handicapped (*Z-verpleegkundige* or Z-nurses) is three years in length and is divided into six semesters of 26 weeks each. The training includes a minimum of 1060 50-minute periods of formal instruction, with the periods of study divided as follows: theoretical instruction in anatomy & physiology, general & specialized neurology, general nursing, nursing of the mentally handicapped, general & specialized pathology, physical therapy, and special education topics, 480 periods; practical instruction in clinical procedures, escort procedures, motion training, nursing of the mentally handicapped, nursing techniques, occupational therapy, physical therapy, field trips, and observation & reporting, 260; communication studies (expression), group dynamics, and sociology, 120; electives selected from the first three categories, 100; and other subjects approved by the program director, 100.

Practical training takes place under the guidance of qualified nurses. Student nurses must maintain a practice and report book documenting their experience according to specific quidelines. The program is concluded by a 30-minute oral final examination.

Nurses for the mentally handicapped, Z-nurses, are admissible to the following higher vocational (HBO) programs: higher (administrative and management) training for nurses (*hogere opleiding voor verpleegkundige*/HOV), and training for instructors in health care institutions (*opleiding tot docent ten behoeve van instellingen voor gezondheidszorg*).

Training of Nurses for Nursing Homes. The program training nurses for nursing homes (*ziekenverzorgende*) lasts 26½ months and includes a minimum of 650 50-minute periods of theoretical instruction, divided as follows: human anatomy, physiology & pathology, 132 periods; introduction to nursing practices, 70; patient care, 207; personal growth & social studies, 174; electives in the above areas, 67.

Practical training takes place under the guidance of qualified nurses. Student nurses must maintain a practice and report book documenting their experience according to specific guidelines. Rotation through at least three different departments of the nursing home offering the training, and experience with patients suffering from at least 20 different illnesses is required. Within two or three months of the final examination, student nurses take qualifying tests in the theoretical subjects studied. A 30-minute practical final examination pertaining to an actual case is given at the end of the program.

The diploma for nurses practicing in nursing homes does not, as a rule, admit graduates to higher vocational (HBO) programs.

Vocational School Nursing Programs

Intermediate Vocational Training for Nurses

Intermediate vocational education for nurses (*middelbare beroepsopleiding-verpleegkundigen*/ MBO-vp or MBO-v) is offered at five institutions enrolling a total of about 1400 students. Basically, graduation from a four-year intermediate secondary program (MAVO), a total of 10 years of formal education, is required for admission to this secondary-level program. However, applicants with comparable qualifications may be considered. All applicants must be in good health. The actual admissions decisions are made by school committees which must include the principal and at least two instructors.

The MBO-v program is three years in length. As elsewhere in Dutch secondary education, the academic year extends over a 40-week period. Fulltime instruction at the school totals about 30 hours per week. During the first year virtually all instruction takes place in the school. In the second year, about 50% of the time is devoted to five or six thematic practical training periods during which approximately equal time is spent on outpatient and inpatient care. In the third and final year, 40% of the student's time is spent in school and the remainder in practical training that must take place in a minimum of two and a maximum of five continuous sessions. Overall, the time spent in the three-year program is divided approximately as follows: arithmetic, 1%; communication studies (expression), 4%; counseling periods, 1%; cultural & social studies, 2%; Dutch, 4%; English, 1%; health science, 8%; ideological problems, 1%; interpersonal relationships, 8%; nursing (theory), 10%; pathology, 8%; physical education, 4%; physics & chemistry, 1%; practical training, 37%; and electives, 10%.

It is expected that MBO-v nurses will receive further on-the-job training and counseling after the basic certification attained upon graduation. Unlike nurses trained in hospital programs, MBO-v graduates may practice in a number of settings including general

hospitals, psychiatric hospitals, care facilities for the mentally handicapped, nursing homes, and outpatient care. MBO-v graduates are admissible to the basic higher vocational nursing (HBO-v) program and may be exempt from portions of the program, based on demonstrated skills. MBO-v nurses are also specifically admissible to higher vocational (HBO) programs in the following areas: public health nurses' training (*opleiding tot verpleegkundige in de maatschappelijke gezondheidszorg*/MGZ), higher (administrative and management) training for nurses (*hogere opleiding voor verpleegkundige*/HOV), higher vocational training for physical therapists (*hogere beroepsopleiding tot fysiotherapeut*), higher vocational training for dietetics (*hogere beroepsopleiding voor dietetiek*), and training for teachers in the health care field (*opleiding tot dozent ten behoeve van instellingen voor gezondheidszorg*). In addition, those holding the MBO-v diploma may in some cases be admitted to other higher vocational (HBO) programs by the admissions committee of a particular institution.

Higher Vocational Nursing Programs

There are three distinct higher vocational (HBO) programs for nurses offered within the higher health care (*hoger gezondheidszorg onderwijs*/HGZO) sector: 1) the basic program known as *hogere beroepsopleiding tot verpleegkundige*/HBO-v (higher vocational training for nurses); 2) training for public health nurses (*opleiding tot verpleegkundige in de maatschappelijke gezondheidszorg*/MGZ); and 3) higher or advanced (administrative and management) training for nurses (*hogere opleiding voor verpleegkundige*/HOV or recently also *voortgezette opleiding gezondheidszorg*/VOG) in both hospital and public health nursing.

The Basic Program (HBO-v). This four-year program is open to VWO, HAVO and VHBO diploma holders or to those with comparable qualifications. In addition, applicants with the MBO-v nursing diploma may be exempted from certain portions of the higher vocational program on the basis of knowledge and skills demonstrated.

The HBO-v program is divided into two phases of two years each. Although the first phase does not include practical training, students are introduced to the realities of nursing through assigned health-care projects, field trips, "work weeks," and guest lectures. During the second phase a minimum of 40 weeks and a maximum of 60 weeks are scheduled for practical training including the days spent reporting back to the school. Assignments must be prepared during the practical training period. The academic portion of the program consists of at least 2600 50-minute periods of instruction broken down into periods as follows: anatomy, physiology & medical science, 360 periods; Dutch, 80; hygiene, nutrition, & dietetics, 160; instructional methods, 120; management, economics & law, 280; mathematics, physics, & chemistry, 120; nursing, 520; physical education, 120 periods; philosophical & ideological orientation to nursing, ethics, and social science, 200; selected topics, 40; sociology, psychology, & social psychology, 480; and electives, 120. At the end of the four-year program, students sit for a final examination in three theoretical subjects. If passed and if the practical training and a final essay have been successfully completed, a final interview is conducted leading to the HBO-v nursing diploma.

Graduates are eligible for admission to the training program for instructors at health care institutions, the social academies, the nursing higher (administrative and management/HOV) program, and the new teacher training institutes. Also, on an experimental basis through 1985, students have the opportunity to transfer to a university program in the medical or health science fields, as provided for in the Mutual Transfer in Higher Education Law (Wet Wederzijdse Doorstrooming Hoger Onderwijs). (See Chapter 7.)

Public Health Nursing (*opleiding tot verpleegkundige in de maatschappelijke gezondheidszorg*/MGZ). This two-year program, which is open to holders of the MBC-v diploma, offers two options. The general nursing option within the program is also open to hospital-trained nurses with the general nursing (*A-verpleegkundige*) diploma; the psychiatric nursing option within the program is also open to hospital-trained nurses with the psychiatric nursing (*B-verpleegkundige*) diploma. The structure of both options is the same and both include a large number of the same courses. Students eligible to be admitted to both options can, in fact, with some extra effort complete both in the normal time required for the program. Subjects taught include education, hygiene, an ideological orientation, law, medical science, nursing topics, psychology, social science, sociology, teaching methods, and management. Instruction takes the form of lectures and group work illustrated by field trips. The requirements for the diploma include final exams in three subjects, satisfactory completion of the practical training and a final essay, and a final interview.

MGZ diploma holders are eligible for admission to the social academies, the new teacher training institutes and, with appropriate experience, to the higher (administrative and management) nursing (HOV) program.

Higher (Administrative and Management) Training for Nurses (*hogere opleiding voor verpleegkundige*/HOV). This program is open to MBO-v, HBO-v, experienced MGZ graduates. MGZ diploma holders who do not also hold HAVO or VHBO diplomas may be required to take an additional entrance examination. The two-year advanced program offered two distinct majors, one in hospital nursing (*ziekenhuiswezen*) and one in public health nursing (*maatschappelijke gezondheidszorg*). Instruction for all majors and options takes the form of lectures; thematic discussions; supervised practical training, including experiences in leadership and teaching; field trips; and projects followed by symposia. Both majors require that the applicant pass examinations covering the following: education, management, the philosophical orientation, psychology, social psychiatry, and sociology. Graduates are eligible for admission to the new teacher training institutes.

The public health nursing major consists of one full academic year of theoretical studies (1300 hours) followed by a year of supervised practical training. Examination subjects for this major include the organization of public health nursing & economics, social medicine, and supervision of public health nursing care.

The hospital nursing major is further broken down into A and B options: general nursing (*A-verpleging*) and psychiatric nursing (*B-verpleging*), either of which may be taken with a teaching or management emphasis. Both the general option and the psychiatric option require examinations in biochemistry, economics, education, law, personnel management, and supervision of institutional nursing care. The general option also requires an examination in introductory psychiatry, while clinical psychiatry is a required examination subject in the psychiatric option. The teaching emphasis of both options additionally requires an examination in teaching theory. Theoretical instruction in the hospital nursing major is spread over both years of the program totaling about 1500 hours. Practical training periods eight weeks in duration are required during each year of the program.

The current broadened VOG program has, since 1983, focused primarily on administration and management in health care institutions. A second option aimed at professionalization in the health care field is currently under development. The post-1983 version involves about 1300-1500 50-minute lessons organized into modules.

Leadership Training For Hospital-Trained Nurses (*kaderopleiding*). This type of training offers students the opportunity to prepare themselves for leadership functions during a part-time two-year program. Subjects taught are education, economy, ideological education, law, management, professional basics, psychology, and social science. Instruction consists of a minimum of 424 and a maximum of 502 lessons. Practical experience in a

relevant function is gained preferably at least two days a week. The three-part final examination covers three subjects of the theoretical part of the program and includes a final essay and a final interview.

Conclusions

The general nursing (*A-verpleegkundige*), psychiatric nursing (*B-verpleegkundige*), and nursing of the mentally handicapped (*Z-verpleegkundige*) diplomas, obtained in hospital training programs, may be considered to represent a level of education roughly equivalent to that of the secondary-level intermediate vocational (MBO-v) nursing diploma. The hospital programs are, however, more specialized in nature and offer less in the way of general education. Nurses with diplomas in all four of these categories have access to at least some higher vocational (HBO) programs. Consequently, from an academic perspective, the general level of education represented by all four of these qualifications may be considered roughly equivalent to a highly specialized U.S. vocational high school diploma. However, in terms of their function in the work place, nurses with the diplomas in question may perhaps best be compared with licensed vocational (or practical) nurses in the United States. The implications of this are that the vocational aspects of the training received will undoubtedly be similar in many respects to the training offered in U.S. community college programs and/or hospital schools of nursing.

Because the general level of education represented by the diploma for nurses in nursing homes (*ziekenverzorgende*) is usually not considered adequate by Dutch authorities for admission to HBO programs, this qualification should not, as a rule, be considered to represent a general level of education comparable to a U.S. high school diploma. However, the vocational aspects of the training received may again be found, in part, to be similar to the training offered in U.S. community college programs and/or hospital schools of nursing.

The HBO-v program represents the highest level of nursing education available in the Netherlands. Because of the heavy emphasis on practical training in this program, it is on the whole not readily comparable to U.S. bachelor's degree programs in nursing. Nevertheless, professionally it leads to a qualification best compared to that of U.S. registered nurses. The objectives and duration of studies of the other higher vocational (HBO) nursing programs perhaps makes them comparable to undergraduate-level certificate programs as offered in a few fields by some U.S. colleges and universities.

Chapter 7

University Education

General Information

The term *wetenschappelijk onderwijs* (WO) is usually liberally but justifiably translated as university education. Literally, *wetenschappelijk* encompasses the meanings associated with both "scientific" and "scholarly" in English and this, in fact, describes both the traditional and legally defined functions of Dutch universities. Ranked solidly among the primary objectives of university-level institutions in the Netherlands is the carrying out of scientific and scholarly research and the preparation of future generations of scientists and scholars.

The lines separating the pure and the applied have, however, never been perfectly clear and the present trend seems to be toward closing the gap between higher vocational and university education by devices such as improved articulation, cooperative and parallel programs, and perhaps by the shortened duration of university degree programs. One of the social academies now offers an experimental *doctoraal* program in social science, and the Netherlands School of Business, which for many years was not part of the official structure of Dutch education, has been authorized to offer a *doctoraal* program in business. The universities traditionally have offered professional training in law and the medical sciences. Steadily over the last century, in response to societal demands, they have expanded their "practical" offerings to encompass engineering, agriculture and, more recently, what in the United States is generally put under the heading of business administration. Transfer to the universities from programs such as those offered by the higher technical institutes, after the first year or two of study, with possible waiver of the preliminary examination (*propaedeutisch examen*), is now a reality, as is transfer with exemption from some coursework in certain programs for those coming from the new teacher training institutes. In spite of this trend, it is still clearly at the universities that theory, research, and scholarship are most firmly at home and there is no evidence that this will change in the foreseeable future.

Enrollment in Dutch universities has soared since the early 1950s, going from only 30,000 in 1950 to well over 150,000 in the 1982-83 academic year. This growth has slowed in recent years and appears to be reaching its peak. This great demand for university education explains, at least in part, the changing role and nature of university programs. Clearly, only a portion of the more than 150,000 students enrolled in university programs during the 1982-83 year were preparing for careers focusing on research and scholarship. Most, in fact, will enter or have already entered some field of employment in which the emphasis will be on the practical application of knowledge and skills gained at the university.

Most recently, in recognition of the changing role of the Dutch universities, the Dutch Parliament passed a law which, beginning in September 1982, divided all programs into two stages: the first stage is limited to the study of a major field of learning and necessary supporting subjects, while the second addresses problems of research and various types of professional training requiring an extensive academic foundation. Completion of the first stage, consisting uniformly of four-year programs, will lead to a degree suited to the needs of the majority of students who are preparing for non-research-oriented careers; the second stage, not to exceed two years, will teach research methods and will provide advanced training in certain professions, e.g., medicine. The new structure of university education is discussed in greater detail in the section entitled "New Two-Phase Structure."

University-Level Institutions

Two terms, *hogeschool* and *universiteit*, are used in the Netherlands to designate university-level institutions. There are no implications bearing on quality or educational level inherent in these terms, and both are commonly translated as "university." The only difference is that an institution using *universiteit* in its name must consist of at least three Faculties (or schools) including either a Faculty of Medicine or a Faculty of Natural Sciences and Mathematics. For the purposes of this volume, both terms will be translated as university when referring to multipurpose institutions, as this seems to be standard practice in the Netherlands. Only for the single-purpose theological institutions will the term *hogeschool* be translated as "higher school."

Dutch universities may be classified as public or private, although such a distinction affects neither the major elements of their financing nor does it diminish their responsibility to comply with national policies as enacted by Parliament and implemented by the Ministries; as a result, all the universities tend to be considered national institutions by the Dutch.

Although there are undoubtedly some differences in quality between programs in the same field offered at different institutions, the reasons for this are not apparent. It is difficult to fault funding levels, faculty salaries, or academic regulations, since the first two are a matter of law, and those regulations not legislated have usually been carefully coordinated with other institutions, regardless of a university's origins or affiliations. Consequently, the official position is that a given program is essentially the same in level and quality at all the institutions offering it, implying that quality judgments about institutions and programs cannot be made on the basis of obvious criteria, such as resources or mode of operation, but must be based on more subtle data, such as the reputation of faculty personnel, or experience with a university's graduates.

National public institutions include the following: Agricultural University (Landbouwhogeschool), at Wageningen; Delft University of Technology (Technische Hogeschool Delft); Eindhoven University of Technology (Technische Hogeschool Eindhoven); Erasmus University, Rotterdam (Erasmus Universiteit Rotterdam); the State University of Groningen (Rijksuniversiteit Groningen); the

State University of Leiden (Rijksuniversiteit te Leiden); the State University of Limburg (Rijksuniversiteit Limburg); the State University of Utrecht (Rijksuniversiteit te Utrecht); and Twente University of Technology (Technische Hogeschool Twente).

The University of Amsterdam (Universiteit van Amsterdam) originated as a municipal institution, but since 1961 has been independent of city control. The private universities include Catholic University, Nijmegen (Katholieke Universiteit Nijmegen); Catholic University, Tilburg (Katholieke Hogeschool Tilburg); and the Free University, Amsterdam (Vrije Universiteit, Amsterdam), founded by the Calvinists. Table 7.1 lists the fields of study offered at Dutch universities. For additional information on these institutions, including addresses and enrollment figures, see Appendix A, "Institutions of Higher Education, 1983." Sample programs offered at specific universities are described later in this chapter. Other university-level programs are mentioned in Appendix A and at the end of the chapter in the sections entitled "Special Institutions" and "The Open University Proposal."

Table 7.1. **Fields of Study Available at Dutch Universities**

Courses of Study	Rijksuniversiteit Leiden	Rijksuniversiteit Groningen	Rijksuniversiteit Utrecht	Erasmus Universiteit Rotterdam	Universiteit van Amsterdam	Vrije Universiteit Amsterdam	Katholieke Universiteit Nijmegen	Technische Hogeschool Delft	Technische Hogeschool Eindhoven	Technische Hogeschool Twente	Katholieke Hogeschool Tilburg	Landbouwhogeschool Wageningen	Rijksuniversiteit Limburg
Actuarial studies					•	•							
Aerospace technology including aero engineering								•					
African languages and Bantu studies	•												
Agricultural sciences												•	
Andragogics	•*	•	•		•	•	•						
Antillian law*	•						•						
Arabic language and literature	•	•	•		•	•	•						
Archaeology*	•	•	•		•	•							
Architecture								•	•				
Art history and archaeology	•	•	•		•	•	•						
Astronomy	•	•	•		•		•						
Biology	•	•	•		•	•	•					•	
Byzantine studies and modern Greek*	•	•			•								

	Rijksuniversiteit Leiden	Rijksuniversiteit Groningen	Rijksuniversiteit Utrecht	Erasmus Universiteit Rotterdam	Universiteit van Amsterdam	Vrije Universiteit Amsterdam	Katholieke Universiteit Nijmegen	Technische Hogeschool Delft	Technische Hogeschool Eindhoven	Technische Hogeschool Twente	Katholieke Hogeschool Tilburg	Landbouwhogeschool Wageningen	Rijksuniversiteit Limburg
Chemical engineering		•*						•	•	•			
Chemistry	•	•	•		•	•	•						
Chinese language and culture	•												
Civil technology and hydraulic engineering								•					
Classical languages and literature	•	•	•		•	•	•						
Comparative studies of Indo-European languages*	•		•				•						
Comparative study of other language families*	•												
Constitutional studies	•			•									
Cultural anthropology	•	•*	•		•	•	•				•		
Demography*		•											
Dentistry		•	•		•	•	•						
Dutch language and literature	•	•	•		•	•	•						
Dutch law	•	•	•	•	•	•	•				•		
Econometrics		•		•	•	•					•		
Economics		•		•	•	•					•		
Egyptian language and literature	•	•	•†		•								
Electrical engineering								•	•	•			
English language and literature	•	•	•		•	•	•						
Finno-Ugrian languages		•											
Fiscal economics*		•		•	•						•		
Fiscal law	•	•			•						•		
French language and literature	•	•	•		•	•	•						
Frisian language and literature*	•	•	•		•	•							
General linguistics*	•	•	•		•	•	•						
Geodesy								•					
Geography-physical			•		•	•							
Geography-social		•	•		•	•	•						
Geology	•	•†	•		•	•							
Geophysics			•										
German language and literature	•	•	•		•	•	•						
History	•	•	•		•	•	•						

(continued)

BEST COPY AVAILABLE

	Rijksuniversiteit Leiden	Rijksuniversiteit Groningen	Rijksuniversiteit Utrecht	Erasmus Universiteit Rotterdam	Universiteit van Amsterdam	Vrije Universiteit Amsterdam	Katholieke Universiteit Nijmegen	Technische Hogeschool Delft	Technische Hogeschool Eindhoven	Technische Hogeschool Twente	Katholieke Hogeschool Tilburg	Landbouwhogeschool Wageningen	Rijksuniversiteit Limburg
Indic and Iranian languages and cultures	•	•	•		•								
Indonesian languages and cultures	•		•										
Industrial design								•					
Industrial engineering									•	•°			
Italian language and literature	•	•	•		•		•						
Japanese language and literature	•												
Korean language and literature°	•												
Literature-study of comparative and general literature°	•	•	•		•	•	•						
Management science		•		•°					•°				
Mathematical engineering		•°						•	•	•			
Mathematics	•	•	•		•	•	•						
Mechanics								•	■	•			
Medicine	•	•	•	•	•	•	•						•
Metallurgy								•					
Mining engineering								•					
Modern Persian language and literature	•		•										
Musicology			•		•								
Notarial law°	•	•	•		•	•	•						
Old Germanic languages°		•	•										
Pedagogics	•	•	•		•	•	•						
Pharmacy	•	•	•		•								
Phonetics°			•		•		•						
Philosophy	•	•	•	•	•	•	•						
Physical education						•							
Physics	•	•°	•		•	•	•						
Physics ('ingenieur' course)		•						•	•	•			
Psychology	•	•	•		•	•	•				•		
Planning (social sciences)°		•	•		•	•	•				•		
Political science	•°			•	•	•	•						
Portugese language and literature			•				•						
Prehistory°	•	•			•								
Public administration										•			

BEST COPY AVAILABLE

	Rijksuniversiteit Leiden	Rijksuniversiteit Groningen	Rijksuniversiteit Utrecht	Erasmus Universiteit Rotterdam	Universiteit van Amsterdam	Vrije Universiteit Amsterdam	Katholieke Universiteit Nijmegen	Technische Hogeschool Delft	Technische Hogeschool Eindhoven	Technische Hogeschool Twente	Katholieke Hogeschool Tilburg	Landbouwhogeschool Wageningen	Rijksuniversiteit Limburg
Publicity and mass media studies*					•		•						
Romanian language and literature		•			•								
Scandinavian languages and literature		•	•		•								
Semitic languages and literature	•	•	•		•	•	•						
Shipbuilding and shipping								•					
Slavonic languages and literature	•	•	•		•								
Sociology	•	•	•	•	•	•	•				•		
Sociology, non-western	•				•	•							
South African language and literature					•								
Spanish language and literature	•	•	•		•		•						
Theatrical studies*			•		•								
Theology	•	•	•		•	•							
Turkish language and literature	•		•										
Urban planning								•	•†		•†		
Veterinary science			•										
Welfare problems		•											

SOURCE: Adapted from Lynn George, *Vadecum: A Concise Guide to Studying in the Netherlands for Foreign Students* (Amsterdam: Foreign Student Service, Amsterdam, 1979), pp. 13–15.

**Doctoraal* program only.

†*Kandidaats* program only.

Governance and Administration

The 1815 Constitution empowered the Netherlands bicameral Parliament to regulate education, including the universities. This regulatory power has since been exercised through the Ministry of Education and Science at all levels of education and with increasing frequency in the twentieth century in regard to university education.

BEST COPY AVAILABLE

The Ministry of Education and Science also has responsibility for the rest of the higher education system except for the Agricultural University at Wageningen, which is under the Ministry of Agriculture and Fisheries. The two Ministries are advised by the Netherlands University Council. This body consists of three members from each university, including the *Rector Magnificus*, who corresponds somewhat to the President or Chancellor at U.S. institutions. The other two institutional representatives to the University Council are elected by the local university councils of each institution. An additional ten members, including the Chair and Vice-Chair, are appointed by the Crown.

National policies are interpreted for each institution by its own University Council. The 1970 law reforming university governance specifies that these bodies are to be limited to a maximum of 40 members and that their composition must adhere as closely as possible to the following proportions: Representatives of the university must constitute 5/6 of the membership and such representation must be divided equally among the faculty, staff, and students. The remaining 1/6 of the members are appointed by the Ministry concerned in the case of public institutions or by the founding organization of private universities.

Each institution is administered by a board (*college van bestuur*) consisting of either three or five individuals, including the *Rector Magnificus*. The *Rector Magnificus*, who is at least nominally the head of the university, is appointed by the Crown upon the recommendation of the institutional Council of Deans. Half of the remaining members are also appointed by the Crown, and the other half elected by the local University Council. The institutional Council of Deans (*college van decanen*), headed by the *Rector Magnificus*, advises the administrative board on academic matters and research. It is also responsible for awarding the advanced research degree of *doctor*.

Each Dean heads a Faculty Council (*faculteitsraad*). Faculties (*faculteiten*) are the largest units within Dutch universities, corresponding approximately to the colleges or schools of U.S. universities. The membership of the Faculty Councils must be composed of at least one-half Faculty representatives, and the other half or less of administrative staff and student representatives. From its midst the membership selects an Executive Council (*faculteitsbestuur*), usually consisting of five members including the Dean, to carry out the day-to-day administrative functions of the unit.

Corresponding to the *faculteit*, the largest organizational unit at universities of technology, is the *afdeling* (department). The *subfaculteit onderafdeling* (sub-departments) are smaller units, usually not offering a full program of study. *Interfaculteiten* (interfaculties) are organized like the Faculties, but represent interdisciplinary studies or specialized studies—for example, the Interfaculty of Geography and Pre-History at the State University of Utrecht. As a rule, *subfaculteiten*, *onderafdelingen*, and *interfaculteiten* are, like the *faculteiten* and *afdelingen*, headed by Deans who are members of the Council of Deans. The organizational units discussed thus far usually consist of a number of *vakgroepen* ("subject groups"). These are perhaps the units most closely resembling the departments at many U.S. institutions, in the sense that they represent the level at which research, instruction, and planning in a single discipline take place.

Finance and Research.

The concept of equal state support for public and private education is as evident at the university level as elsewhere in Dutch education. Furthermore, the financing of education is centralized with 99% of the money used by the universities allocated by the Directorate-General for Higher Education and Scientific Research, a component of the Ministry of Education and Science. For example, approximately 4.7 billion guilders (roughly, 1.8 billion dollars) were spent on university education in the Netherlands in 1981, more than on any other single educational sector. In addition, much of the research being conducted by the Dutch universities is funded as a component of the regular budget. Furthermore, the Organization for Pure Science Research (Organisatie voor Zuiverwetenschappelijk Onderzoek/ZWO) can appropriate funds directly for any project found worthy of its support. It is expected that future funding for research increasingly will come from this source.

Faculty, Ranks and Qualifications

Until recently, only the highest ranking faculty members (*hoogleraren*) appointed by the Crown could use the title of *professor*. Formerly, the next rank was that of *lector*, literally, "lecturer," but perhaps in terms of responsibilities and prestige representing a position somewhere between a full professor and an associate professor at many U.S. institutions. Under the 1981 University Act (Wet Wetenschappelijk Onderwijs 1981), all *lectoren* have been categorically promoted to the rank of *hoogleraar*, and may now use the title *professor*. The remaining faculty ranks in descending order are *wetenschappelijk hoofdmedewerker* (scientific or scholarly chief co-worker), *wetenschappelijk medewerker le klas* (scientific co-worker, first class), *wetenschappelijk medewerker* (scientific co-worker), and *wetenschappelijk assistent* (scientific assistant). Those holding the rank of *hoogleraar* and *lector*, prior to the promotion of the *lectoren*, were appointed by the Crown. Faculty members of all ranks are now appointed by the Administrative Board of each institution. Tenured status normally is attained after four years of continuous service by faculty members holding fulltime appointments. Provisions also exist for the employment of "extraordinary" professors (*buitengewone hoogleraren*), who often hold part-time appointments while engaged in independent practice or other employment in their fields. All faculty members of the same rank receive the same salary regardless of their field of specialization or the institution at which they are employed.

At present the minimum qualification for a faculty appointment is the *doctorandus* (first university degree) or its equivalent, although one of the future impacts of the new "two-phase" structure of university programs may be a future preference or requirement for research training, at least in some Faculties. *Wetenschappelijk hoofdmedewerker*, the rank perhaps most closely resembling that of associate professor at U.S. institutions, requires proven research ability, and usually the completion of the dissertation for the advanced research degree of *doctor*. Full professors (*hoogleraren*) are chosen by Faculty committees whose members must

be qualified in the discipline involved, and of whom at least half must be faculty members. Full professors commonly hold the degree of *doctor*.

Admission Requirements

In a real sense the selection process for admission to Dutch universities begins upon completion of primary education. While primary school leavers are free to apply to the secondary schools of their choice, the schools in turn have the right to reject "substandard" applicants. By law, the secondary schools must seek the primary school principal's recommendation for each secondary school applicant. Most schools also make use of a national test covering reading, arithmetic, and general knowledge in determining a candidate's admissibility. The first year of all secondary programs (grade 7) is considered a transition year (*brugjaar*) intended to help rectify improper placement if it has occurred. The lateral flow between secondary programs, however, tends to be largely in one direction—towards academically less demanding and vocational programs. In fact, the transition year curriculum for the lower vocational (LBO) programs is not identical to that of general secondary (MAVO and HAVO) and pre-university (VWO) programs, making transfer from vocational to general secondary programs extremely difficult unless that year is repeated.

For those who succeed in entering pre-university (VWO) programs, the annual attrition rate in the first two years is about 7% for males and about 12% for females. On the whole, fewer than half of those who remain after the transition year obtain the VWO diploma within the standard five-year period, with about a fourth dropping out entirely, and about a third having to repeat a year.

By law, those students who ultimately obtain the VWO diploma are admissible to Dutch universities. However, by their selection of examination subjects for the VWO diploma, students limit their access to certain Faculties, since a given Faculty is permitted to require that applicants have been examined in specific subjects. Furthermore, overcrowding, most notably in the medical sciences, caused the Parliament to pass a bill in 1972 that made it possible to restrict the number of students (*numerus clausus* or *numerus fixus*) admitted to Faculties with an insufficient number of places available to meet the demand. Though originally conceived as a temporary measure, such restrictions have since been imposed annually, particularly in medicine, dentistry, and veterinary science. For the 1981-82 academic year, for example, there were eight disciplines subject to numerical admission restrictions: biology, dentistry, history, law, medicine, pharmacology, physical education, and veterinary medicine. Initially, those students with an average of 7.5 (out of 10) or higher on their final VWO examinations were automatically admitted, and the remaining places distributed by means of a lottery in which each minimally qualified applicant had an equal chance of being selected. After a lengthy debate, the Dutch Parliament opted for a weighted lottery system in 1976 in which all applicants were subject to the lottery, but the probability for selection stood in direct proportion to the final average grade, i.e., the better the grade the better the applicant's chance of being selected.

Although VWO diploma holders constitute a large majority of those admitted to university programs, applicants in the past few years have been admitted on the basis of alternative qualifications. A law passed in 1979 governing articulation between higher vocational education (HBO) and the universities (discussed in the next section) also makes it possible for those who have completed a year or two of an HBO program to request admission to a closely related university program and even to petition for exemption from the preliminary examination (*propaedeutisch examen*). In addition, HBO graduates have long had access to related university studies. Adult applicants, i.e., those over the age of 25, who do not possess an appropriate qualifying diploma may also be admitted on the basis of a special entrance examination (*colloquium doctum*). Such exams are offered on a pass/fail basis and are an attempt to ascertain whether or not the candidates have a background in the basics strong enough for their intended field of study. For example, the 1982 study guide of the Catholic University, Tilburg, specified that adult applicants to their sociology program must pass examinations demonstrating the following: a passive knowledge of two modern languages including English and either French, German, or Spanish; knowledge of mathematics; and proficiency in Dutch, particularly adequate writing skills. Adult candidates for Tilburg's psychology program, on the other hand, were to be examined only in biology, mathematics, and English.

Some foreign applicants to Dutch universities with non-Dutch qualifications are considered automatically admissible. This is true if they hold an approved secondary qualification from a country participating in the European Convention on the Equivalence of Diplomas Leading to Admission to Universities—or if they are from a country such as Israel or New Zealand with which special treaties are in effect. The countries participating in the European convention include Austria, Belgium, Denmark, France, West Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Spain, Sweden, Turkey, the United Kingdom, and Yugoslavia. Students from other countries must obtain a declaration from the Ministry of Education and Science stating that their educational credentials are acceptable for entry into their intended program.

As a rule, applicants from the United States are not accepted on the basis of a high school diploma. Although each case is judged on its own merits, the general consensus among Dutch educators appears to be that up to two years of undergraduate work at a U.S. college or university may be needed to reach a standard comparable to that represented by the VWO diploma. With certain exceptions—e.g., the present cultural exchange treaty with China or the legal obligations to the former colony of Surinam—foreign students are limited to no more than 4% of the total first-year places available in dentistry, medicine, and veterinary science.

Student Services

The registrar's office (*bureau inschrijving*) is a central university office which provides for all the formalities of registration. Records of each portion of a program completed by the student, such as test results, evaluations of papers or

practical training, etc., are kept on file in the administrative office of the Faculty (school or college) offering the program in which the student is enrolled, not in a central records office as is customary in the United States. All students have the right to obtain official copies of these records.

Academic advisors work closely with the Faculty records offices. Students are expected to meet with their advisors at least annually to become familiar with the program and what is expected of them, and later to discuss study and employment opportunities in other fields. The academic advisor also has the responsibility of verifying to the student's counselor (*studentendekaan*) the student's program of study and the progress being made for financial aid purposes. This information is then forwarded by the counselor to the appropriate ministry office.

Transfer Between Higher Vocational Institutions and the Universities

Under the present system of Dutch education, it is possible to transfer from higher vocational institutions to the universities and vice versa. The Mutual Transfer in Higher Education Law (Wet Wederzijdse Doorstroming Hoger Onderwijs), passed in 1979 and put into effect in 1980, provides for an experimental period during which such transfers are permitted. When the law expires in 1985, the data gained from this experiment will be used to formulate the stipulations governing transfer opportunities in the law currently being drafted to regulate all of higher education, the so-called "Framework Act" (Kaderwet).

In those programs where transfer opportunities currently exist, students must apply to one of the eight special commissions presently regulating the following fields: 1) higher technical education and the universities of technology; 2) social academies and university departments of social sciences; 3) teacher training academies and university departments of social sciences; 4) higher economic and administrative education (i.e., higher vocational business education) and university departments of economics; 5) higher economic and administrative education and university schools of law; 6) higher health care institutions and schools of medicine; 7) higher agricultural education and the University of Agriculture; and 8) higher agricultural education and university departments of veterinary medicine.

Ministry of Education and Science data show that in most areas there has not been a heavy flow of students in either direction. The greatest activity has been in the technical sector. From 1980 through 1982, approximately 50 requests were received each year for transfer from the higher technical schools (HTS) to the technical universities (TH). About 90% of the requests were approved.

The law specifically provides for admission and for the granting of appropriate advanced standing. No details were available on advanced standing granted to students transferring from the higher technical schools to the technical universities, but a Ministry report indicated that in principle these students were placed at the beginning of the first year of the university program, although some individual dispensations in certain subjects may have been granted.

By far the heaviest activity occurred in transferring from the technical universities to the higher technical schools. About 40% of the university students in 1980 and about 25% in 1981 received categorical advanced placement in the HTS program with well over half of the university transfer students in 1981 receiving individual dispensations for specific subjects. No figures on advanced placement in the technical sector were available for 1982.

The second highest rate of transfer activity was from the social academies to university social science programs with nearly 50 requests in 1980, almost 70 in 1981, and 120 in 1982. Over 80% were approved with only 30% receiving individual dispensations for specific subjects in 1981. Unlike the technical sector, no requests by university students for transfer to the social academies were reported.

In all other areas (excluding the higher agricultural schools for which no figures on transfer were maintained), transfer activity was minimal: There were 12 requests, all approved, for transfer from university economics programs to higher vocational business programs. The remaining combined number of requests for transfer involved fewer than 10 students, predominantly from vocational programs to the university. No further figures on advanced placement were available.

In summary, the net short-term effect of the transfer law seems to be, on the one hand, that of providing a clear path for technical university students, dissatisfied with or poorly prepared for their choice, to appropriate placement in HTS programs. It seems to be of little interest to university students in other disciplines. On the other hand, it appears to provide a limited opportunity, not otherwise available, for a few HAVO (general secondary education) graduates to gain admission to university programs after a year or two of vocational studies, but with little advanced standing credit, at least at present.

Aside from academic considerations, the law apparently provides an advantage to students going in either direction in terms of keeping matters related to financial aid and military service deferrals in good order.

Traditional University Programs

Introduction. At the moment two distinct versions of virtually all Dutch university programs coexist because of a law restructuring university education that went into effect in 1982. The terminology for the degrees and examinations for both is virtually identical. The new programs are generally at least one year shorter than their traditional counterparts, and students no longer have unlimited enrollment privileges. Beginning with the fall semester, 1982, new students were permitted to enroll only in the new programs and the phasing out of the traditional versions of all programs was begun. This process is expected to be completed by 1990. In the following paragraphs Dutch university programs are discussed in terms of their traditional structure. The effects of the introduction of the new structure are discussed in the section entitled "The New Two-Phase Structure."

Table 7.2. Standard Years of Study for Selected Objectives at Dutch Universities, 1981

Programs	Arts & Sci.		Engineering		Law		Medicine		
Examinations	K	D	K	D	K	D	K	D	A
Institution									
Agric. U., Wageningen	–	–	–	5	–	–	–	–	–
Cath. U., Nijmegen	–	5	–	–	–	4	–	5	7
Cath. U., Tilburg	2–3	5–6	–	–	2–3	5–6	–	–	–
Delft U. of Tech.	–	–	–	5–7	–	–	–	–	–
Eindhoven U. of Tech.	–	–	–	5	–	–	–	–	–
Erasmus U., Rotterdam	–	5	–	–	–	4	–	5	7
Free U., Amsterdam	3–4	5–7	–	–	3–4	5.5–6.5	3–4	5–7	6–8
State U. of Groningen	–	5	–	5	–	4	–	5	7
State U. of Leiden	–	5	–	–	–	4–5	–	5	7
State U. of Limburg	–	5	–	–	–	–	–	5	–
State U. of Utrecht	3–4	6–7	–	–	2	5	3–4	5–5.5	7–7.5
Twente U. of Tech.	–	–	3.5	5.5–6.5	–	–	–	–	–
U. of Amsterdam	–	5	–	–	–	4.5	–	5	7

K = kandidaatsexamen D = doctoraalexamen A = artsexamen

SOURCE: Based on data taken from the *International Handbook of Universities*, (1981), pp. 767–773.

The distinction between undergraduate and graduate education, as found in the United States, has little or no meaning in traditional Dutch university programs. Perhaps as a result of the restructuring of Dutch university programs currently underway, such terminology may become more applicable in the future. During the portion of their studies involving formal enrollment in coursework, Dutch students generally have pursued a single degree objective, the *doctorandus* (or equivalent) which, in terms of final level, perhaps most closely resembles the U.S. master's degree. Traditionally, the regulations governing Dutch university programs have not subjected students to rigid time constraints with respect to the duration of their studies. The average total time from the date of admission to preparation for the *doctoral* examination has typically been about seven years, although some have taken as long as nine years or more. Generally, students have taken about two years longer than the pace permitted by the actual structure of Dutch university programs. In the study of law the standard (usually minimum) program length has been only four years at several institutions, while the standard period of study in many other fields has been five years. However, a few programs are longer by design as, for example, at the State University of Utrecht where the standard period of study for the *doctoral* examination in arts and sciences programs has been six to seven years (see Table 7.2).

Examinations. Traditional Dutch university degree programs are divided into two or three phases, each requiring the passing of major examinations. Some programs have required a preliminary examination (*propaedeutisch examen*), taken after a minimum enrollment of one year. A number of programs offered by the technological universities have involved two such exams: a general one covering mathematics and basic sciences after the first year (*propaedeutisch examen, eerste gedeelte*/P1), and a more specialized exam after the second year (*propaedeutisch examen, tweede gedeelte*/P2). Many programs required an intermediate examination (*kandidaatsexamen*), normally taken after two to four years of study (see Document 9). In most cases, a final examination (*doctoraalexamen*) concluding the program of study could be taken at the end of five years.

First Degrees and Professional Titles. In most fields of study, those who successfully complete the final examination are granted the title of *doctorandus/dra.* (inherently implying candidacy for the degree of *doctor*, discussed below). In agriculture and engineering the successful candidates earn the title of *ingenieur/ir.* (engineer), which distinguishes it from the same title, abbreviated *ing.*, awarded by higher technical and agricultural schools in the higher vocational (HBO) sector (see Chapter 4). Graduates in law receive the title *meester in de rechten/mr.* (master of law). In addition to *doctorandus*, graduates in psychology may use the legally protected title *psycholoog* (psychologist), but this will not, as a rule, appear on the diploma. The titles earned by successfully satisfying the requirements of the *doctoraal* examination represent a legally equivalent level of education in spite of the variations existing among the different programs.

In medicine, veterinary medicine, dentistry, and pharmacology a further period of practical (clinical) training, generally lasting two years, is followed by state examinations that qualify the graduate to practice and use the professional titles: dentist (*tandarts*), pharmacist (*apotheker*), physician (*arts*), and veterinarian (*dierenarts*). Five Dutch universities also offer a program extending beyond the *doctoraal* level leading to the qualification of registered account (*registeraccountant*). For additional information on the training of accountants and physicians, see "Accounting," and "Medicine at the State University of Utrecht" under "Sample Programs."

The passing of the preliminary examination (*propaedeutisch exam*) and of the intermediate examination (*kandidaatsexamen*) does not lead to formal qualifications in the sense of a degree. These are primarily indicators of progress toward the *doctoraal* degree. However, certificates are issued showing the results of the exams and the completion of any other requirements involved. Success on the final examination (*doctoraalexamen*), on the other hand, represents a substantial achievement, being at present, and probably continuing to be, the standard indicator of academic achievement with respect to in-depth mastery of a body of knowledge. Under the traditional structure, preparation for research, including the skills for a formal presentation of the results, is considered to be an integral part of the *doctoraal* program. Though not as demanding an undertaking as the dissertation (*proefschrift*) needed to earn the degree of *doctor*, a major paper (*scriptie*), or project (*afstudeerproject* or *opracht*) is almost universally required to complete a *doctoraal* program. Sometimes more than one paper or project, or a

combination of both, may be involved. The expectations appear to be quite similar to those for the theses and projects required in many U.S. master's degree programs. Commonly monitored by at least two faculty members, the final *doctoraal* paper or project may be based on experimental or field research, or literature analyses and reviews, and must reflect the student's capacity for research and dealing with the theoretical aspects of the discipline.

The passing of the *doctoraalexamen* is the level at which the majority of successful Dutch students terminate their studies and enter the job market. For example, the title *mr.* carries with it the right to practice law, and those who hold the *ir.* title are considered professional engineers. Similarly, those who hold the *drs.* are viewed as fully qualified in many fields to embark on careers in the public and private sectors. However, as indicated earlier, further training and examinations are required before professional practice is permitted in medicine, veterinary medicine, dentistry, pharmacology, and accounting. This is also true for those who wish to obtain the highest level teaching certificate, qualifying them to teach in the upper grades of secondary schools and at higher vocational institutions.

Prior to 1972, the Catholic Institute of Economics (now the Catholic University, Tilburg) and the University of Amsterdam offered the lesser degree of *baccalaureus* (literally "bachelor") on the basis of a minimum of three and one-half and four years of study, respectively, and the passing of appropriate examinations. Amsterdam also offered a four-year *baccalaureus* in chemical technology. Amsterdam and Tilburg no longer offer this degree. Twente University of Technology, which offered a three and one-half year *baccalaureus technische wetenschappen*/BTW (literally, "bachelor of technical sciences"), began phasing it out starting in 1979. Twente students not yet finished who began their studies before September 1979 will, reportedly, have through 1985 to complete their programs. Holders of this degree could, if they chose, continue to study for the *doctoraal* examination, continuing at about the same level as students having passed the *kandidaatsexamen*.

The Degree of *Doctor*. In all fields it is possible for those who have passed the *doctoraal* examination to work toward the degree of *doctor* (*dr.*) without additional coursework by carrying out independent research, the results of which are reported in a dissertation (*proefschrift*), if a willing faculty sponsor can be found. The degree of *doctor*, as awarded by Dutch universities, is strictly a research degree which has been, and quite likely will continue to be, open to anyone who has passed the *doctoraal* examination. The process of acquiring the doctorate, known as *promotie* in Dutch, first involves finding a mentor, known as a *promotor*, willing to sponsor the candidate. Anyone with the former or present rank of *professor* (or, previously, the rank of *lector*) at any Dutch university may function in this capacity with the approval of the Council of Deans. In practice, the authority to designate *promotores* is generally delegated to the Deans of the various Faculties. The *promotor* guides the research and gives final approval to the dissertation (*proefschrift*); or a series of related articles published in professional journals, if that is what is agreed upon. A candidate may have two or even three *promotores* with equally shared responsibilities. It is also possible that a

copromotor (conceivably two) with lesser responsibilities assists the *promotor* in the supervision of the dissertation.

There is no formal coursework involved in working toward the doctorate. Candidates are expected to make up any background deficiencies on their own, prior to beginning their research. Usually, at least three years are required to produce work of the required depth and standard. Once the candidate for the degree of *doctor*, the so-called *promovendus*, completes the dissertation, the manuscript, along with at least six additional unrelated propositions (*stellingen*), is submitted to the *promotor*. Commonly 12 or more propositions are prepared, half related to the dissertation and half not. The content of both the dissertation and propositions must be evaluated by a committee of three, including any *promotores* or *copromotores*, and, as needed, one or more *referents*. A *referent* is strictly a knowledgeable faculty member with no supervisory responsibilities designated by the Council of Deans, or more commonly by the Dean of the Faculty, to assist with the evaluation process. If the propositions or the dissertation or both are rejected by the committee, the student may appeal to the Dean of the Faculty involved and, as a last resort, to the Council of Deans. Upon the manuscript's approval the student must see to the printing and binding of 300 copies of the dissertation and propositions. A committee consisting of five members, including any *promotores*, *copromotores*, or *referents*, plus two faculty members also appointed by the Dean of the Faculty, undertakes a final review of the dissertation. As a last test, the student must face an opposition committee, representing the Council of Deans and consisting of at least seven members. This body must again include any *promotores*, *copromotores*, or *referents*, and other members usually appointed by the Dean of the Faculty acting on behalf of the Council. After a 45- to 60-minute public defense of the dissertation, the opposition committee meets to decide the fate of the candidate. In giving final approval to a candidate, the committee acts on the authority of the Council of Deans. The degree of *doctor/dr.* may be awarded with distinction (*cum laude*), if the work presented is judged worthy of special recognition. At every level, participants in the evaluation process of candidates for the degree of *doctor* must themselves hold a doctorate.

Those who earn their doctorate at a technological university are permitted to use the combined title *dr.ir.* Similarly, if the doctorate was completed in a faculty of law the compound title *mr.dr.* may be used. The title *dr.mr.* also occurs and signifies that an individual who originally passed the *doctoraal* examinations in a faculty of law completed the doctorate in another faculty. All of these titles are defined and protected by law.

The New Two-Phase Structure

Effective September 1982, first degree programs at Dutch universities (discussed in the previous sections) were restructured, or restructuring was at least initiated, so that all first degree programs can henceforth be completed in four years. The previous terminology has for the most part been retained. Unlike before, all programs now have a *propaedeutisch examen* after the first year (see Appendix B,

Document 8 for a post-1982 grade list). As before, the programs are to be terminated by a final comprehensive evaluation or examination (*doctoraalexamen*). Success on the *doctoraalexamen* continues to lead to the title of *doctorandus/drs.* in most fields, *meester in de rechten/mr.* in law, or *ingenieur/ir.* in engineering and agriculture. However, there will no longer be a *kandidaatsexamen* in any program. The new four-year versions of all programs, referred to as the "first phase," are expected to have replaced the traditional versions by 1990.

As presently envisioned, the "second phase" is to consist of advanced training for the conduct of research in all fields and of clinical or practical training for such professions as medicine, dentistry, pharmacy, accountancy, and senior secondary or higher vocational teaching. According to the official plan, the duration of studies in the second phase will probably vary. However, two years is the maximum standard length currently envisioned for a given program. Phase-two programs will be introduced in the fall of 1986.

The First Phase

The "first phase" is the new official terminology referring to studies preparing for the *doctoraal* examination. The first phase (*eerste fase*) is itself broken down into two segments, a preliminary portion (*de propedeuse*) and a major portion (*doctoraalstudie*). The preliminary portion can normally be completed in one year. A maximum of two years is allowed to complete this portion of one's studies. If a change of major is involved, an extension of up to one year may be granted. The period of extension granted for a change of program depends on the degree of overlap between the preliminary studies required for the two programs. Only when the two share no common subject matter would the maximum period of extension be granted. This preliminary segment of the first phase of study is designed to aid in student selection for further study, and to serve an advisory and orienting function for the student.

The required preliminary examination (*propedeutisch examen*) given at the conclusion of the preliminary portion of the students' program may be repeated only once. It serves to screen out those students who fail to demonstrate the ability to proceed with their studies. Furthermore, based on the examination, all students get a set of written recommendations dealing with their progress. While these recommendations are not binding, they can serve as a basis for further discussions with an advisor about continuation in the student's present course of study, and possible alternatives. For those who continue in the field originally chosen, this preliminary portion of the program will have served as an orientation period.

The major segment (*doctoraalstudie*) of all programs is designed to be completed in three years. For those students who have used the maximum time allowed for the preliminary portion of their programs, including any approved extensions, the total period of enrollment in the major portion of the program may not exceed four years. However, those students who did not use the maximum period permitted for the preliminary portion may carry over the extra

time available to the extent that the total period of enrollment in the first phase, i.e., the *doctoraal* program, does not exceed six years (or seven if the maximum extension allowed for a change of major was granted during the preliminary portion of the program). In other words, a student who passed the preliminary examination at the end of the first year could enroll for five additional years as a regular student in that particular program. Although the maximum period of enrollment as a regular student is to be six years, there are exceptions and alternatives to regular enrollment. One routine exception, already pointed out, is the extension of the two year limit for completion of the preliminary portion due to a change of major. Extensions of the time limits for either portion of the program may be granted for circumstances beyond the control of the student, such as a prolonged illness, or for compelling personal reasons, such as pregnancy.

Even for those students who cannot obtain an extension of the time limits, all is not lost. Registration as an auditor (*toehoorder*), external student (*extraneus*), or a combination of these, known as a "new style auditor" (*toehoorder nieuwe stijl*), is still possible. As an auditor the student may, with the approval of the institution, attend lectures and other educational activities, but may not take examinations. External students, i.e., those eligible to take examinations who cannot or do not wish to attend the university, may register solely for the purpose of taking examinations. "New style auditors" are registered for the purpose of following the courses as well as taking exams, having met the same eligibility criteria as regular students.

Such enrollment differs from that of a regular student in several ways: 1) With the exception of admission to those majors with numerical enrollment limits, admission as a regular student is the legal right of those who possess the necessary academic qualifications, while enrollment as a "new style auditor" is subject to institutional approval. 2) Quite importantly, students are ineligible for further financial aid once the regular enrollment period has been used. 3) The right to vote in institutional elections is extended only to regular students. Since student participation in governance and administration is provided for by law, this is considered an important right by many students.

The Second Phase

The whole concept of the second phase (*tweede fase*) essentially is to provide professional training. In addition to the training of researchers, current plans call for the program to encompass clinical training in certain health fields (including dentistry, medicine, pharmacy, and veterinary science), advanced teacher training for secondary school teachers, and other professional training.

Clinical *postdoctoraal* programs in medicine will continue to be two years in length, and dental programs one year. It is important to note that the education offered in the health fields at this stage is practical/clinical training that prepares students for professional examinations, just like the professional training following the traditional *doctoraal* program now being phased out (discussed in the

previous section). The students already will have completed a four-year theoretical *doctoraal* program in their field. Training programs for researchers are presently envisioned as being one year in length, but could be as long as two years. Teacher training is to consist of a half-year program in theory and methods, which supplements the first-phase studies in an academic discipline. Plans for other professional programs, such as accounting, are under consideration.

Under the existing guidelines, no phase-two program is to be designed to require more than two years for completion, although standard additional time will be allowed according to the following pattern: Students will be allowed an extra three months to complete programs of less than a year's duration and an extra six months for programs of more than a year. In other words, someone in a two-year program could take as long as two and one-half years to complete the program without resorting to special appeals for an extension of the enrollment period. Provisions are also to be made for the possibility of beginning phase-two programs at times other than the customary beginning of the academic year in September.

In areas such as clinical training in medicine and dentistry, where in a sense the second phase already exists under the traditional system, little change is expected. There is, however, a great deal of uncertainty in other areas, and some speculation that the actual programs developed may differ greatly from the official plans presented here. Among the various possibilities under discussion are the following: keeping the number of phase-two programs to a minimum; implementing a three year research-training program that culminates in a dissertation; and putting advanced teacher training programs into the secondary teacher training institutes (i.e., in the HBO sector).

Access to the second phase of study is to be limited. Those involved in the planning process envisioned that, on the whole, only about 30% of phase-one graduates would be permitted to enter phase-two programs. However, the plans allow for some variability. In the medical sciences, where the ability to practice professionally depends on further study, as many as 80% of the graduates are expected to be admitted to phase-two programs. In programs of the beta (mathematics and natural sciences) type, about 30% may be allowed to go on, while only about 20% are expected to continue into the second phase in alpha (humanities) and gamma (social sciences) type programs. The percentages given are based on Ministry of Education and Science projections, and may change considerably as modifications in the actual implementation of the new law are made.

The decision concerning who will be admitted to a particular second-phase program will rest with a Faculty committee at the institution to which application is made; this means that it will be possible to apply simultaneously to other institutions where the program is offered. The admissions committees will have the responsibility of seeing that admissions do not exceed the number of places available. The exact criteria employed will be up to the Faculty committees, but these will be published and made available to the students. In general, the following criteria will be considered: courses completed during the phase-one program; results of the *doctoraalexamen*, especially in subjects considered important for the second-phase program; experience after completion of phase-one

studies, if applicable; and the pace at which the first-phase studies were completed.

Conclusions. According to the Ministry of Education and Science's interpretation of the new law, students are to receive a "full-valued academic program" (*een volwaardig academische opleiding*) in the first phase of university study. Obviously, to compress programs that previously required by design a minimum of five years or sometimes even six or seven years into a four-year period will mean that some things will have to be condensed and/or deleted. Training in research methods has been present to varying degrees in the lengthier traditional versions of Dutch university programs. While university authorities have indicated that research and other methods courses will remain in the first-phase programs, and apparently the production of a major paper (*scriptie*) or project (*afstudeerproject* or *opdracht*) will continue to be required, the new law specifically relegates training for research to the second phase of university study. Whether the deferral of instruction in this aspect of a discipline will allow the subject matter to be covered as fully as before is a question that only time will answer. (See "Comparison of Old and New University Programs" and "Sample Programs" for the differences between the old and new curriculums.)

Comparison of Old and New University Programs

Table 7.3 is based on an analysis of the old and new *doctoraal* (first degree) programs in psychology prepared by Prof. Dr. P. van den Broek of the University of Leiden. This analysis reveals that the new program requires about 1700 hours per year of study as compared to about 1665 hours per year of study for the old program. However, the overlap permitted between the areas of study and variations in the old style program apparently often caused this figure to drop below 1500 per year or even lower. Nevertheless, in the new program less time is devoted to all categories except professional (clinical) training, the only area showing a definite increase in the anticipated number of hours required.

The new program also appears to be more narrowly focused, reducing the amount of time spent on major electives and other electives by about 50%. Though not reflected in Table 7.3, Dr. van den Broek reported that theoretical research and methods classes would remain a required part of the curriculum. Futhermore, it is obvious from this table that the amount of time expected to be devoted to the preparation of a thesis or major paper remains essentially the same.

Table 7.3. Comparison of the Old and New Curricula in Psychology, State University of Leiden

Structure and Content	"Old Style" Curriculum	New "1st Phase" Curriculum
Propaedeuse (one year)	Introduction, General Psychology, and other subjects	Introduction, General Psychology, and other subjects

(continued)

Kandidaatsstudie (two years)	General Psychology	None
Doctoraalstudie (three years)	Specialization	General Psychology (1.5 years), Specialization (1.5 years)
Totals	6 years (1 year = ± 1665 hours of study)	4 years (1 year = 1700 hours of study)
Content Analysis		
Theory in Major:		
Requirements	4750 hours (47.5%)	2850 hours (42.0%)
Electives	350 hours (3.5%)	(included below)
Other Subjects	1300 hours (13.0%)	885 hours (13.0%)
Labs/Practical Work	1350 hours (13.5%)	615 hours (9.0%)
Professional (Clinical) Training	1400 hours (14.0%)	1630 hours (24.0%)
Thesis	850 hours (8.5%)	820 hours (12.0%)
Totals	10,000 hours (100.0%)	6800 hours (100.0%)

Source: Based on analysis prepared by Prof. Dr. P. van den Broek, State University of Leiden, 1983.

SAMPLE PROGRAMS

ACCOUNTANCY

Since 1967, the accounting profession has been regulated by the Netherlands Institute of Registered Accountants (Nederlands Instituut van Registeraccountants/NIVRA). NIVRA is a statutorily established professional association operating in cooperation with the Ministry of Economic Affairs (Ministrie van Economische Zaken). NIVRA sets the standards in the accounting profession and registers qualified professionals. In addition to its own training program (discussed in Chapter 4), NIVRA recognizes the program leading to the qualification of registered accountant (*registeraccountant*) offered by the Erasmus University, Rotterdam; the University of Amsterdam; the Catholic University, Tilburg; the State University of Groningen; and the Free University, Amsterdam.

Students interested in the *registeraccountant* qualification initially pursue a normal *doctoraal* program in economics. Their *propedeutisch examen* must include accounting, economics, mathematics and statistics. The remainder of the program must include examinations in finance; macro- and microeconomics; statistics; two subjects selected from advanced accounting, geography, history, law, advanced mathematics, sociology, and tax law; and specialization in macroeconomics, microeconomics, or public finance.

After completing the *doctorandus* in economics the student spends an additional two and one-half years in part-time study, usually one day a week. The courses and required examinations are offered by the universities. The final examination covers all aspects of auditing. Students who did not do so as part of their *doctoraalexamen* must also pass examinations in accounting and tax law. Although not formally required, it is customary for students to be employed in the field of accounting while preparing for the qualifying examination. Indeed, NIVRA officials suggest that it would be almost impossible to pass the final examination without appropriate practical experience.

A student successful in all required examinations is registered with NIVRA and legally entitled to be called *registeraccountant*. The title *accountant* is also used, sometimes inter-

changeably, although it has a somewhat broader legal definition. In addition to the *registeraccountants* themselves, individuals employed under the direct supervision of a *registeraccountant* and certain public servants may also call themselves *accountant*. Consequently, the latter title has no precise definition in terms of educational qualifications.

SOCIOLOGY AT THE CATHOLIC UNIVERSITY, TILBURG

In the 1980 guide to studies at the Catholic University, Tilburg, the five year program in sociology is divided into three phases (*fasen*): preliminary (*propaedeuse-*), intermediate (*kandidaats-*), and final (*doctoraal-*). The one-year preliminary (*propaedeuse*) component involved a total of 1600 hours of study plus 100 hours of study-related activities and was an orientation year. The intermediate or second year program consisted of the same subjects and number of hours with subject matter studied to greater depth. The hours of study, including individual study by the student, for each of the first two years were divided among the subjects listed below as follows: economics (200 hours), general sociology (400 hours), history (200 hours), philosophy (200 hours), psychology (200 hours), research methods (mathematics & statistics, 400 hours) for a total of 1600 hours per year.

After the second year, the student sat for the intermediate examination (*kandidaatsexamen*). Successful candidates could continue into the first part of the *doctoraalfase* (D-I) which consisted of two further years of in-depth studies and included the following subjects taken in the third and fourth years (number of hours per year are indicated in parentheses) as follows: general sociology (320 hours), methodology (160 hours, third year only), philosophy (320 hours), area of specialization (320 hours), elective 1 (320 hours), and elective 2 (320 hours) for a total of 1760 and 1600 hours respectively.

The areas of specialization available were the following: demographics, developmental sociology, sociology of education, sociology of government & public administration, sociology of spatial order, sociology of work, statistics & research methods, theoretical sociology, sociology of trade & industry, or a freely selected program. Electives could be chosen from criminology, cultural anthropology, economics, history, instructional psychology, leadership studies, social & organizational psychology, state law, and various others. This first segment of the final phase (D-I) was terminated by subject matter examinations (*tentamens*) in the various areas.

The final year or second segment of the *doctoraalfase* (D-II) was spent in the preparation of two papers based on practical experience, a review of the literature and/or actual research. One paper was to deal with the area of specialization, and the second, if not combined with the first, with another subject. This portion of the program was considered to require approximately 1700 hours of effort on the part of the student.

The 1982 guide to study at the Catholic University, Tilburg, presents the new program in sociology as a four-year program broken down into semesters. The preliminary examination (*propaedeutisch examen*) after the second semester might better be called a preliminary evaluation as it consists of the combined results of examinations given in each subject at the end of each semester. There is a final examination (*doctoraalexamen*) at the end of the fourth year. As with all new programs, there is no longer a *kandidaatsexamen*. See Table 7.4 for the organization of the new sociology program at Tilburg.

The areas of specialization available are almost identical to the earlier version of the program. The restricted elective allows students to select a second semester of economics, history, or psychology, building upon that which was taught in the first year. At least in part, the condensation of the old program into the new version appears to have been accomplished by a reduction in the official amount of time spent on the final project.

Table 7.4. **The New Sociology Program, Catholic University, Tilburg**

Semester 1	Semester 2
Propaedeuse (first year)	
History 1	Economics 1
Philosophy 1	Psychology 1
Sociology 1	Sociology 2
Statistics & Research Methods 1	Statistics & Research Methods 2
	Preliminary Examination
	Total: 1700 hours of study plus Orientation Project of 100 hours
Doctoraalstudie (second year)	
Philosophy 2	Sociology 4
Sociology 3	Specialization 1†
Statistics & Research Methods 3	Statistics & Research Methods 4
Restricted Elective*	Support Subject for Specialization 1
	Total: 1700 hours of study
Doctoraalstudie (third year)	
Sociology 5	Philosophy 3
Specialization 2†	Sociology 6
Statistics & Research Methods 5	Specialization 3†
Support Subject for Specialization 2	Elective 1‡
	Total: 1700 hours of study
Doctoraalstudie (fourth year)	
Philosophy 4	Final Project of 1100 hours
Sociology 7	
Specialization 4†	
Statistics & Research Methods 6	
Elective 2‡	Final Examination
	Total: 1700 hours of study

SOURCE: Adopted from *Studie-Informatie 1982 Katholieke Hogeschool Tilburg*, p. 38.

*Allows student to select second semester of economics, history, or psychology.

†Areas of specialization include the following: demographics, developmental sociology, mgmt. & organization, sociol. of educ., sociol. of government & public admin., sociol. of spatial order, sociol. of work, stats. & research methods, theoretical sociol., welfare sociol.

‡Determined by student with advisor's approval.

LAW AT THE STATE UNIVERSITY OF UTRECHT

Tables 7.5 and 7.6 give a summary of the old and new versions, respectively, of the international option of the law program at the University of Utrecht. In both versions, the final year permits specialization in business/economic law, civil law, criminal law, governmental and administrative law, international law, judicial law or social law. Tables 7.5 and 7.6 also reflect the relatively minor changes incurred in adopting the new first-phase structure. Instead of a one-and-a-half-year *kandidaatsstudie*, there is now a one-year *propaedeuse*, as required by law. Some of the coursework, most notably in economics, has been

shifted around. In the new program the course load of the second year of the main segment (*doctoraalstudie*) is much heavier than in the old program. The final year of both the old and new programs is essentially the same in all areas, and is identical in some (see Tables 7.5 and 7.6). In terms of total student load, both the old and new programs, as a whole, involve somewhat over 6000 hours of lecture, exercise, field trips, and student preparation. The apparent deviation from the 6800 hours, required by the Ministry of Education and Science for all new programs, is explained by the institution as being the result of a somewhat different approach to defining a student's standard study load.

There are two instructional periods of 13 weeks each, one beginning in early September, the other beginning in late January or early February. Each first period is followed by a one week self-study session and another two-week examination period. A two-week optional examination period in August, apparently for those who missed the exams or need to retake them, gives the student an additional six weeks to prepare.

Table 7.5. "Old" Law Program (International Option), State University of Utrecht

Course or Activity	Type	Hours
Kandidaatsstudie (1½ years)		
General Introduction to Dutch Law	lecture, exercises & field trips	540
History of Dutch Law	lecture	180
Introduction to Civil Law	lecture, exercises & field trips	230
Intro. to Criminal Law & Procedure	lecture, exercises & field trips	150
Intro. to Governmental & Admin. Law	lecture	150
Macroeconomics	lecture & exercises	180
Microeconomics A & B	lecture & exercises	240
Political History of the State	lecture	120
Roman Law	lecture	150
Free Electives:		
Sociology of Law and/or Philosophy of Law	–	–
	Total	1940
Doctoraalstudie (first year of major segment)		
Administrative Law & Procedure	lecture & exercises	250
Civil Law I (Contracts)	lecture & exercises	400
Civil Law II	lecture & exercises	230
Civil Procedure	lecture, exercises & field trips	120
Governmental Law	lecture	250
Required Electives:		
One law course selected by student	–	(minimum) 120
One course slected from:		240
Methodology in Law	lecture & exercises	
Philosophy of Law	lecture	

(continued)

Practice of Law	lecture & exercises	
Sociology of Law	lecture	
	Total	1610
Doctoraalstudie (second year of major segment)		
Commercial/Business Law	lecture & exercises	340
Criminal Law & Procedure	lecture, exercises & field trips	400
Principles of Taxation Law	lecture	100
Required Elective:		
One law course selected by student	–	(minimum) 120
	Total	960
Doctoraalstudie (final year of major segment)		
History of International Law	–	40
International or European Jurisprudence	–	100
Law of International Organizations	–	200
Methodology & *Capita Selecta* in International Law	–	200
Political Science & International Relations	–	200
Research paper on international or political topic	–	240
Seminar or special topics in international law	–	200
Required electives:		
One course selected by student	–	200
One course chosen from:	–	200
International Economic Law		
International Economic Relations		
European Economic Integration		
European Social & Economic Law		
Special course on international law or law of international organizations		
	Total	1580

SOURCE: Based on information provided by Mr. E. R. Schellings, Academic Advisor, Faculty of Law, University of Utrecht, September 1983.

Table 7.6. "New" Law Program (International Option), State University of Utrecht

Course or Activity	Type	Hours
Propaedeuse (first year)		
History of Law	lecture	300
Introduction to Civil Law	lecture, exercises, & field trips	200
Introduction to Criminal Law	lecture & field trips	130
Intro. to Governmental & Administrative Law	lecture	130
Introduction to Law	lecture, exercises, & field trips	360
Legal Skills	lecture, exercises, field trips, etc.	120
	Total	1240

Doctoraalstudie (second year, first year of major segment)

Civil Law I (Contracts)	lecture & exercises	400
Civil Law II	lecture & exercises	240
Civil Procedure	lecture, exercises, & field trips	120
Governmental Law	lecture & exercises	260
Macroeconomics	lecture & exercises	180
Microeconomics I	lecture & exercises	120
Required electives:		240
One course chosen from:		
Legal Methodology	lecture	
Philosophy of Law	lecture	
Practice of Law	lecture & exercises	
Sociology of Law	lecture	
	Total	1560

Doctoraalstudie (third year, second year of major segment)

Administrative Law & Procedure	lecture & exercises	260
Criminal Law & Procedure	lecture, exercises, & field trips	400
Commercial/Business Law	lecture & exercises	340
Economic Law Introduction to Taxation Law Social Law		200
Intro. to International Law	lecture	120
Microeconomics II	lecture & exercises	120
Required Electives:		240
Subjects selected by student or additional work in economics, taxation, or social law		
	Total	1680

Doctoraalstudie (fourth year, final year of major segment)

History of International Law	–	40
International or European Jurisprudence	–	100
Law of International Organizations	–	200
Methodology & *Capita Selecta* in International Law	–	200
Political Science & International Relations	–	200
Research paper on international or political topic	–	240
Seminar in international law	–	200
Required Electives:		
One course selected by student		200
One course chosen from:		200
European Economic Integration		
European Social & Economic Law		
International Economic Law		
International Economic Relations		
Special course on international law or law of international organizations		
	Total	1580

SOURCE: Based on information provided by Mr. E. R. Schellings, Academic Advisor, Faculty of Law, University of Utrecht, September 1983.

CHEMICAL ENGINEERING AT TWENTE UNIVERSITY OF TECHNOLOGY

Tables 7.7 and 7.8 summarize the old and new programs in chemical engineering at Twente University of Technology. The old curriculum involved a minimum of five years of study while, as required by law, the new program can be completed in four years. The coursework, both in terms of content and number of hours devoted to it the first three years, appears to be substantially the same. However, the total student load for each year is somewhat higher. This, together with the change to a trimester system throughout the program, has permitted the practical training period to take place during the last trimester of the third year, rather than after the third year, as it did in the old program. This strategy essentially puts the new program a half year ahead of the old program at the end of the third year. The largest single reduction in the remainder of the program is in the official time allotted to the preparation of the *doctoraal* (final) project. There is also a reduction in the total number of hours spent on electives, but apparently this will not, for the most part, be at the expense of chemistry and chemical engineering courses.

Beyond the objective of imparting a high level of technological competence, Twente's program includes a generous sampling of required humanities and social sciences. Not only are these courses spread throughout each year of Twente's programs, but they represent a broad range of topics including economics, history, philosophy, psychology, sociology, and even introductory business administration.

Twente uses a unit of study called *beste'ingseenheid*/BE. Prior to the introduction of the new programs, a BE was defined as 25 to 30 hours of study in a variety of contexts including lectures, group work, labs, practical training, and other educational activities such as individual work on projects or papers. Under the new program, the BE unit has been fixed at 25 hours of study. The hours listed for the old program in Table 7.7 are based on the minimum conversion factor of 25 hours per BE unit.

Until 1979, Twente was committed to offering the *baccalaureus* (see earlier section on "First Degrees and Professional Titles"). This degree was based on the completion of all coursework and examination requirements through the *kandidaatsexam* (at least three years of study) and, minimally, an additional semester's work. In all programs a final project (*baccalaureaatsopdracht*) was apparently required; in some cases, additional coursework in the majo, and/or an additional course in the humanities and social sciences was also required. If a practical training period was not included in the student's major prior to the *kandidaatsexamen*, it then became part of the additional requirements for the *baccalaureus*. Students who entered the *baccalaureus* program prior to September 1979 and have not yet finished reportedly have through 1985 to complete their degrees. Any student holding the *baccalaureus* is entitled to continue in the *doctoraal* program. This would be just like continuing after passing the *kandidaatsexamen*, i.e., two further years of study, with the possible exception of additional credit for practical training if required by the program in question, and not normally completed until after the third year.

Table 7.7. "Old" Chemical Engineering Program, Twente University of Technology

Course or Activity	Type	Hours*
Propaedeuse/P1 (first year, part 1 of preliminary studies)		
Trimester 1.1		
Analysis (Math) I	lecture & group work	125
Introduction to Vector Algebra	lecture & group work	25
Lab 1.1	lab	75
Math Practice	group work	25
Structure of Materials	lecture & group work	100

Thermodynamics	lecture & group work	100
Trimester 1.2		
Analysis (Math) II	lecture & group work	100
Electricity & Magnetism	lecture & group work	100
General Process Technology	lecture & group work	100
Humanities & Social Sciences I	lecture	75
Linear Algebra I	lecture & group work	75
Physical Measurement Lab 1.2	lab	75
Trimester 1.3		
Analysis (Math) III	lecture & group work	100
Humanities & Social Sciences II	group work	75
Lab 1.3	lab	75
Mechanics of Solids & Fluids	lecture & group work	75
Thermodynamics	lecture & group work	150
	Total	1450

Propaedeuse-P2 (second year, part 2 of preliminary studies)

Trimester 2.1		
Advanced Mathematics I	lecture & group work	75
Algol-60	lecture	50
Chemical Physics	lecture & group work	150
Humanities & Social Sciences III	lecture	75
Physical Chemistry I	lecture & group work	125
Trimester 2.2		
Humanities & Social Sciences IV	lecture	75
Inorganic Chemistry	lecture & group work	125
Lab 2.2	lab	200
Organic Chemistry	lecture & group work	125
Trimester 2.3		
Advanced Mathematics II	lecture & group work	100
Humanities & Social Sciences V	lecture	75
Introduction to Chemical Engineering	lecture	125
Lab 2.3	lab	100
Properties of Materials	lecture & group work	100
	Total	1500

Kandidaatsstudie (third year)

Semester 3.1 (note change from trimesters)		
Chemical Analysis I	lecture	100
Humanities & Social Sciences VI	lecture	100
Introduction to Mathematical Statistics	lecture & group work	100
Numerical Math & Programming Methods	lecture & lab	100
Physical Chemistry II	lecture & group work	100
Physical Transport Phenomena	lecture & group work	150
Problems of Environmental Pollution	–	–
Technical-Physical Lab	lab	100

(continued)

Semester 3.2		
Engineering Lab selected from:		300
Apparatus I Lab	lab	
Chemical Reactors I Lab	lab	
Inorganic Materials Lab	lab	
Intro. Process Dynamics Lab	lab	
Medical Technology Lab	lab	
Organic Materials Lab	lab	
Physical Chemistry of Processes Lab	lab	
Problems of Environmental Pollution	lecture	50
Required Elective, selected by student	lecture	100
Technical Electives, two selected from:		300
Chemical Reactors I	lecture & group work	
Inorganic Materials I	lecture	
Medical Technology	lecture	
Organic Materials II	lecture	
Process Economics	lecture	
Study of Apparatus	lecture	
	Total	1500
Doctoraalstudie (four[illegible] and fifth years)		
Basic Subjects (e.g., [illegible]heoretical Chemistry) selected with advisor's approval	(minimum)	400
Engineering subjects, selected with advisor's aproval	(minimum)	400
Humanities & Social Sciences, selected with advisor's approval	(minimum)	300
Practical training period in industry		400
Additional required electives		200
Doctoraal (final) project	(approx.)	1500
	Total	3200

SOURCE: Adapted from *GIDS 1980–81 Technische Hogeschool Twente*, pp. 152–166.

*Hours are based on a minimal conversion of Twente's unit of student load (*bestedingseenheden*/BE), defined as 1 BE = 25 hours.

Table 7.8. "New" Chemical Engineering Program, Twente University of Technology

Course or Activity	Hours*	Course or Activity	Hours*
Propaedeuse (first year)		*Doctoraalstudie* (second year)	
Trimester 1.1		Trimester 2.1	
Analysis (Math) I	100	Algol-60	50
Lab 1.1	100	Analysis (Math) IV	75
Linear Algebra	75	Chemical Analysis	75
Structure of Materials	100	Lab 2.1	50
Thermodynamics	100	Organic Chemistry	100
Vector Algebra	25	Physical Chemistry	125

Trimester 1.2	
Analysis (Math) II	100
General Process Technology	100
Humanities & Soc. Sci. I	75
Lab 1.2	100
Mathematics Exercises I	25
Thermodynamics	150
Trimester 1.3	
Analysis (Math) III	100
Chemical Physics	150
Humanities & Soc. Sci. II	75
Lab 1.3	100
Mathematics Exercises II	25
Mechanics of Solids & Fluids	75
Total	1575
Doctoraalstudie (third year)	
Trimester 3.1	
Applied Industrial Chemistry	100
Environmental Studies	75
Lab 3.1	125
Numerical Mathematics	90
Physical Transport Phenomena	150
Trimester 3.2	
Economic Foundations of Chemical Technology	100
Humanities & Soc. Sci. V	100
Technology of Materials & Raw Materials	100
Electives†	200
Trimester 3.3	
Practical Training	350
Electives†	250
Total	1640
Trimester 2.2	
Electricity & Magnetism	75
Humanities & Soc. Sci. III	100
Inorganic Chemistry	100
Lab 2.2	180
Statistics I	50
Trimester 2.3	
Chemical Engineering	75
Humanities & Soc. Sci. IV	100
Kinetics & Catalysis	100
Lab 2.3	145
Properties of Materials	115
Statistics II	35
After Trimester 2.3	
Chemical Engineering Project	75
Total	1625
Doctoraalstudie (fourth year)	
Trimester 4.1	
Humanities & Soc. Sci. Paper	100
Electives†	450
Trimester 4.2	
Doctoraal (final) Project	225
Electives†	350
Trimester 4.3	
Doctoraal (final) Project	600
Total	1725

Source: Adapted from "Onderwijsprogramma van de Eerste Fase van de Studierichting Chemische Technologie," Chemical Engineering Department, Twente University of Technology, January 12, 1982, pp. 6–9.

*The hours reported in this Table are the same as in the source without conversion.

†Of the 1250 hours devoted to electives during the third and fourth years, the student must choose 3 (totaling 450 hours) from the following: Chemical Reactors I, Inorganic Materials I, Intro. to Process Dynamics, Organic Materials, and Study of Apparatus I. Of the remaining 800 hours a maximum of 400 hours may be taken outside the department.

MEDICINE AT THE STATE UNIVERSITY OF UTRECHT

Prior to the introduction of the new four-year programs in autumn 1982, the academic portion of Dutch medical programs leading to the *doctoraalexamen* generally had a standard

length of five years. The first three years, leading to the *kandidaatsexamen*, consisted of preclinical studies. Part one of the *kandidaatsexamen* (sometimes abbreviated C1) came after the first year and covered biology, chemistry and physics. Part two of the *kandidaatsexamen* (sometimes abbreviated C2), and "part three" (C3) dealt with anatomy, biochemistry, histology, pathology, and physiology. The fourth and fifth years of the program covered the theoretical side of clinical medicine. The final examination (*doctoraalexamen*), usually given in two parts, covered bacteriology, hygiene, medical practice, neurology, obstetrics & gynecology, pathology, phamacology, psychiatry, and surgery.

The description provided in its booklet, *Study Information 1982*, indicates that to some extent the State University of Utrecht has maintained the essential content of the old program in its new four-year curriculum by reducing the emphasis on basic sciences in the first year and introducing core courses from the beginning. For the *propaedeutisch examen* the following subjects are covered: anatomy & embyology, biochemistry, biological antinropology, general biology, histology, medical physics, physical & organic chemistry, and physiology. In addition, medical psychology is taught, but not examined. The second year includes anatomy & embryology, general pathology, histology (cell biology & microanatomy), human genetics, introduction to surgery, physiology, and physiological chemistry. In the third year, the new program covers family medicine (including practical training), infectious diseases, internal medicine, introductory neurology (neuroanatomy & neurophysiology), obstetrics, medical psychology, pathological physiology, pharmacology, psychiatry, specialized pathology, social medicine, and surgery. The fourth and final year preceding the *doctoraalexamen* covers infectious diseases, internal medicine, neurology, obstetrics & gynecology, pediatric medicine, pharmacology, psychiatry, specialized pathology, and surgery.

Throughout both the new and old programs, appropriate laboratory, practical and observation sessions augment the theoretical content. For those successfully completing the requirements of the *doctoraalexamen* under either the old or the new systems, a further two-year clinical training period follows, which in the new terminology will now be known as the "second phase" (*tweede fase*). This fulltime clinical training is traditionally referred to as the *ko-assistentschap* (co-assistantship). The *junior-ko-assistentschap*, or first year's training at Utrecht, takes place in the University hospital and covers gynecology & obstetrics, internal medicine, neurology, pediatrics, psychiatry, surgery, and instruction in pharmacology and radiology. After the first year, students generally take part one of the state-supervised professional medical examination (*artsexamen*). This first part, known as the *semi-artsexamen*, covers neurology, pediatrics, and psychiatry. The *senior-ko-assistentschap*, or second year of clinical training, may take place in any approved hospital, and covers the same areas as those covered in part one. Also included are dermatology, opthalmology, otorhinolaryngology, and, possibly, family practice. The second part of the *artsexamen* covers the first three of the latter subjects, plus obstetrics & gynecology, surgery, and venereology. The exams are both oral and clinical, and include patient diagnosis and prognosis. Those who pass are awarded the title *arts* (physician) and are registered with the Ministry of Social Affairs and Public Health, which issues the license to practice. Legally, this entitles the new physician to practice. From a practical standpoint, however, it is virtually impossible to do so without at least a year's further training to achieve professional recognition as a general practitioner (*huisarts*; literally, "house physician"). Longer training periods, comparable to medical residencies in the United States, are required in order to become a specialist.

Special Institutions

The Interuniversity Institute of Management Science (Interuniversitair Instituut Bedrijfskunde), in Delft. This institution is a joint undertaking of Delft University of Technology, Erasmus University, Rotterdam, the Free University, Amsterdam, the State University of Leiden, and the Foundation for Management Science (Stichting Bedrijfskunde). The Interfaculty of Management Science (Interfaculteit Bedrijfskunde), also referred to as the Graduate School of Management, is the instructional unit of the Institute, which also conducts business research. The Interfaculty of Management Science offers a two-year *doctoraal* program which, at least for the time being, requires the *kandidaatsexamen* for admission.

Nijenrode, or Stichting Nijenrode, the Netherlands School of Business (Instituut voor Bedrijfskunde). Formerly known as Nederlands Opleidings-Instituut voor het Buitenland/NOIB (literally, Netherlands Training Institute for Abroad), Nijenrode was founded in 1946 by several large Dutch corporations, including Unilever, Philips, and KLM. It is a unique example of a major institution that flourished outside the official mainstream of Dutch education, only gaining full Ministry of Education and Science recognition and government subsidization in 1971. On October 14, 1982, Nijenrode officially became a *hogeschool*, i.e., attained university status, although no change in its name has yet been announced.

Starting with the 1982-83 academic year, the school began offering a *doctoraal* program of the new four-year type. In Nijenrode's numerous English-language publications, the new *doctoraal* program is referred to as its MBA program. It represents an extension of Nijenrode's main academic program, the three-year A-Program (*A-studie*), which for some years has been described by institutional representatives as "leading to the equivalent of a Bachelor of Business Administration." Admission to the A-Program has been, both before and since Nijenrode became a *hogeschool*, based on the VWO (pre-university) diploma or its equivalent. Students will continue to have the option of concluding their studies with the A-Program diploma, or continuing for the additional year required to complete the *doctoraal* program.

The equivalences, BBA and MBA, are, of course, based primarily on the Dutch perspective, particularly the institution's. Nijenrode has, however, cultivated exchange programs with accredited U.S. colleges and universities since the early 1950s, and U.S. schools of business have served as models for both of the programs in question. Furthermore, for a number of years, many A-Program graduates have been admitted to and successfully completed various MBA programs in the United States. (Information on the participation of Nijenrode's graduates in U.S. MBA programs is available from Nijenrode.) In addition, A-Program graduates reportedly have been admitted at the post-*kandidaats* level to the Interfaculty of Management Science in Delft (see above). It should be noted that some U.S. institutions do not consider A-Program graduates for admission to their MBA programs and do not consider this diploma equivalent to a U.S. bachelor's degree.

Nijenrode also offers an international program and a program for higher vocational (HBO) school graduates. The International Business Program/IBP is primarily designed as a "junior year abroad" for students from U.S. institutions with which Nijenrode has exchange agreements, and is conducted in English. It was originally established at the request of the University of Oregon's College of Business in 1965. The CT-Program (*commercieel technische/CT studie*), is a one-year orientation to business administration aimed primarily at graduates of higher technical schools (HTS) and higher agricultural (HLO) programs.

The Higher Theological Schools. In addition to the universities, there are seven theological schools considered to be at university level, i.e., empowered to grant the degrees

of *doctorandus* and *doctor*. The following institutions are strictly denominational in nature and offer only theological studies: the Theological Faculty Foundation of Tilburg (Stichting Theologische Faculteit te Tilburg), the Catholic Theological Higher School of Amsterdam (Katholieke Theologische Hogeschool te Amsterdam), the Higher School for Theology and the Ministry of Heerlen (Hogeschool voor Theologie en Pastoraat te Heerlen), the Theological Higher School of the Dutch Reformed Church of Kampen (Theologische Hogeschool van de Gereformeerde Kerken in Nederland te Kampen), the Theological Higher School of the (emancipated) Dutch Reformed Church of Kampen (Theologische Hogeschool van de Gereformeerde Kerken in Nederlanden [vrijgemaakt] te Kampen), the Theological Higher School of the Christian Dutch Reformed Church of Apeldoorn (Theologische Hogeschool der Christelijke Gereformeerde Kerken in Nederland te Apeldoorn), and the Catholic Theological Higher School of Utrecht (Katholieke Theologische Hogeschool te Utrecht).

The Agogische Academie Friesland. One institution not considered a university currently offers a recognized university-level program. The Agogische Academie Friesland, a higher vocational institution of the higher socio-pedagogical (HSPO) type (see Chapter 4), is offering an experimental program in cooperation with the University of Groningen leading to the *doctorandus* in the social sciences.

The Open University Proposal

Objectives. There has long been an awareness of the need for some type of higher education to serve those in the adult population of the Netherlands unable to utilize established programs and institutions. Such persons might range from those who lack formal educational qualifications to those whose family and work commitments preclude fulltime participation in higher education, especially in university programs. In order to accommodate the needs of this group, the Open University Preparatory Committee (Commissie Voorbereiding Open Universiteit/CVOU) recommended the establishment of an independent educational entity to be known as the Open University (Open Universiteit). The committee estimates that some 20,000 students in the Netherlands would be interested in full programs of study offered by this type of institution, and an additional 10,000 would be interested in taking from one to several courses. The possibility of making such courses available to Flemish-speaking Belgians (whose official written language is Dutch) is also under discussion. The committee made the following recommendations concerning admission to the Open University: that admission not be based on specific academic qualifications; that courses of study be broken up into smaller segments and be resumable upon interruption without difficulty; that the pace of the studies be geared to individual circumstances; and that studies not be confined to a particular physical location nor to rigid constraints upon schedule and duration. In addition, the committee recognized that an open admissions policy would create a need for careful supervision and counseling and, in some cases, for preliminary instruction to assist students with background deficiences in following their preferred programs of study.

It is hoped by those formulating plans for the Open University that this institution will help eliminate the current distinction between higher vocational

education and university education. The only differentiation in programs to be offered will be between long-term and short-term courses of study.

Academic Considerations. The Open University is to offer "long courses," equivalent to the new first-phase university *doctoraal* programs. However, in addition, the Open University Preparatory Committee has recommended a "licentiate" (*licentiaat*) degree, representative of three years of fulltime study. Also, the Minister of Education and Science has recommended consideration of even shorter programs leading to diplomas and modeled on the two-year community college programs in the United States. All degree programs are to be under the supervision of an external Committee for Degrees and Diplomas.

It is presently envisioned that courses will be divided into modules requiring approximately 100 hours of study each. A minimum of 5400 hours of study has been the standard suggested by the committee for existing first degrees and perhaps a minimum of 3600 hours of study for the licentiate. In addition, the courses will have to meet certain criteria. Their total cost will have to remain below a fixed ceiling. They will have to meet standards of relevance to occupational, academic and/or cultural objectives, and be of widespread interest to students. They will, of necessity, have to be suited to the instructional methods and facilities available. Finally, it is intended that these offerings reduce the pressure on other educational institutions.

At present, initial offerings are planned to include behavioral sciences, business administration, economics, education, English language & literature, law, natural sciences, organizational methods, social sciences, and technical sciences. Correspondence will be perhaps the major means of instruction. However, some 25 study centers around the country have been proposed, as well as the cooperative use of existing facilities. Students would have access to counseling and tutoring, and also to such physical learning aids as computer terminals and audio-visual equipment.

Although the Open University will have an institutional research department to investigate its own function and effectiveness, increasing the general research capabilities of higher education in the Netherlands is not considered to be among its objectives. Nevertheless, the Open University will be encouraged to forge close ties with existing institutions in research activities.

Organization and Administration. Under the provisions of the present proposal, the Open University's legal basis would be provided by proposed legislation separate for the moment from the Acts currently governing university and higher vocational education. A future Act, now in draft form, the so-called "Framework Act" (Kaderwet), would, however, provide a comprehensive legal basis for all of higher education. The current proposal calls for the Minister of Education and Science to be responsible for operating the Open University in cooperation with an Administrative Board. The majority of the Board is to consist of representatives from the various sectors of Dutch society, but will include staff and student representatives. While the details of organization are still under discussion, the possibility of "joint appointments," i.e., utilization of existing faculty and staff both in university and higher vocational institutions, has been proposed to help meet some of the Open University's staffing needs.

Chapter 8

International Education

Introduction

In 1952, with the creation of the Netherlands Universities Foundation for International Cooperation/NUFFIC (Stichting der Nederlandse Universiteiten en Hogescholen voor Internationale Samenwerking), a major commitment was made to international education. This commitment has focused particularly on providing training in key areas to individuals from developing countries who might be expected to provide future leadership in their fields. Realizing that standard Dutch programs might not best serve the needs of such students, NUFFIC developed an ambitious international education/IE system designed specifically for the target group. Many of the approximately 1600 students participating annually have received scholarships provided by the Dutch Ministry of Education and Science; others have received financial aid from United Nations agencies, or from their employers.

Since Dutch rarely is taught abroad, one of the major obstacles to study in the Netherlands is the language barrier. Consequently, for the international education sector English was chosen as the primary language of instruction with some courses also being offered in Spanish and French. It was decided early on that the most effective use of the available resources was to provide advanced training of a relatively short duration to individuals who already had a solid educational foundation and adequate background in their field. As a result, all programs are at the postsecondary level and most assume a first degree or comparable qualifications as the starting point. Many also require applicants to have had substantial practical experience in their field.

All programs tend to be quite specialized and vary in length from a few weeks to more than two years, the majority lasting a year or less. Most programs lead to diplomas or certificates, although some do not lead to any kind of formal qualification. Several programs lead to master's degrees, and one involves the writing of a dissertation for a Ph.D. The nature of the master's degrees warrants close consideration. The Dutch themselves do not categorically recognize these degrees for purposes of going on with independent research leading to a doctorate at a Dutch university. However, this privilege apparently is occasionally extended both to holders of the Dutch IE master's degrees and to those with master's degrees from outside the country, if the overall level of education is assessed by the faculty as being at the *doctoraal* level. The credentials awarded as a result of completing the international programs are not the usual Dutch diplomas and degrees, but generally are called by the English names given in this chapter; they are originally issued in English or, in some cases, in French or

Spanish.

With respect to the admission requirements for Dutch IE master's degree programs, U.S. admissions officers are cautioned that Dutch and U.S. perspectives on the level of various qualifications may differ. In general, NUFFIC functions as a foreign credential evaluation center for the whole of the Netherlands. Though not always arriving at the same conclusions that one might expect from admissions officers at U.S. institutions, the evaluations performed by NUFFIC are often similar. NUFFIC evaluators do not automatically equate the bachelor's degrees awarded in different countries, but work in terms of overall academic level and degree content. Nevertheless, some students apparently are admitted to Dutch IE master's degree programs with first degrees that would not usually be considered adequate for graduate admission in the United States. Although such admissions may be based on the conclusions of the NUFFIC evaluations, they are reportedly more often based on the decisions of the admissions committees for the various programs, which do not feel bound by the NUFFIC evaluations.

IE programs, though far from comprehensive, represent a wide range of fields from such diverse areas as agriculture, the physical sciences, the social sciences, and public health. The various programs currently available are described briefly in the following sections. A listing of institutions and independent programs with addresses is given in Appendix A, "Institutions of Higher Education, 1983."

Institutions/Programs Offering a Dutch International Education Master's Degree

Agricultural University/AU (Landbouwhogeschool), Wageningen. As indicated in Chapter 7, this is a national institution under the direction of the Ministry of Agriculture and Fisheries; its programs, with the exception of the one discussed here, follow the same pattern as those of other Dutch universities and are taught in Dutch. As a participant in the IE system, AU offers a special two-year M.Sc. program conducted entirely in English. This program, aimed at students from developing countries, focuses on modern research methods and results in the soil science and water management fields. Available areas of specialization include agrohydrology, drainage, irrigation, land evaluation & agropedology, and soil fertility & soil/plant fertility. Admission requires a bachelor's or master's degree in agriculture or a science closely related to soil science, and an entrance examination covering chemistry, mathematics, and physics. Students must also pass a test demonstrating adequate knowledge of English. Total participation is limited to about 26 students.

In cooperation with NUFFIC, AU also offers a six-month diploma program known as the International Course in Food Science and Nutrition/ICFSN, which aims at providing insight into the foundations of these fields and addresses a related problematic theme—for example, nutritional disorders in developing countries. The program is open to applicants who have at least a bachelor's degree and three to five years of experience relevant to the theme being treated at the time the course is offered. (NOTE: First degrees required for admission to IE programs are not necessarily equivalent to U.S. bachelor's degrees.)

Institute of Social Studies/ISS (Stichting Internationaal Instituut voor Sociale Studien). Founded in 1952, the Institute gained independent status in 1956. Though a small institu-

tion, annually enrolling about 200 students with a Faculty of about 70, by 1983 its programs had served more than 3450 students from 115 countries. Many of these individuals now hold important positions ranging from ministers and heads of planning agencies to senior civil servants and senior staff of international agencies. These alumni are an important resource of the Institute, providing valuable contacts and facilitating ISS research projects in developing countries. The Institute's library specializes in English-language literature in the social sciences, with an emphasis on problems in development. Increasing at the rate of about 1500 volumes per year, the collection in 1983 contained approximately 29,000 books, 23,000 smaller publications, and 550 periodicals. An inter-library loan service allows ISS students, Faculty and staff access to other major collections such as those of the universities, the Royal Library, the International Court of Justice, the Economic Information Service, and the Central Bureau of Statistics.

ISS currently offers several ambitious programs in various areas of development studies, including an M.A., M.Phil., and, beginning in 1983, a Ph.D. The M.A. program is a 15-month program consisting of coursework and the preparation of a research paper. Admission to the M.A. program is on the basis of a bachelor's degree or its equivalent (preferably in the social sciences), three or four years' appropriate work experience, and proficiency in the English language. In the 18-month M.Phil. program the emphasis is on research in an area consistent with ongoing ISS research, and the writing of a thesis; coursework is required, as deemed necessary by the ISS Faculty supervising the student. Admission to the M.Phil program normally is on the basis of an M.A., adequate English proficiency, and a research proposal of no more than 2000 words for a project which at least two ISS Faculty members are willing to surpervise. No coursework or particular timetable is specified for the Ph.D., although ISS policy states that academic support will be limited to a period of 30 months. The Ph.D. program concentrates fully on original research consistent with the institution's own research projects, and involves the writing of a doctoral dissertation. According to the Institute, admission to the Ph.D. program is restricted to a few "outstanding and fully-qualified" candidates.

A number of intensive six-month postgraduate diploma programs are also offered which have objectives distinct from the master's degree programs, and consequently cannot be applied towards a degree. Admission to these diploma programs is based on an appropriate bachelor's degree, academic or work experience, and an adequate command of English. (NOTE: First degrees required for admission to IE programs are not necessarily equivalent to U.S. bachelor's degrees.)

The Institute also conducts policy workshops and other short programs which endeavor to bring together participants from developed and developing countries to work on priority projects in the development field. The workshops involve both research and seminars and require the writing of major research and policy conclusions.

All courses are conducted in English. Grading is in terms of percentages and letter grades according to the following pattern: A = 90-100, excellent; B+ = 80-89, very good; B = 70-79, good; C = 60-69, satisfactory; F = below 60, failed.

In 1983-84 the M.A. program allowed specialization in the following areas: agricultural & rural development, economic policy & planning, politics & development strategies, public policy & administration, regional development & planning, and women & development. Ongoing research is concentrated in the following areas: agricultural development & the rural poor, basic needs, employment & technology, international economic & political relations, labor relations & workers' self-management, the margins of state intervention, urban-rural relations & metropolitan development.

The 1983-84 postgraduate diploma programs offered included the following: communication policy & planning for development, development planning techniques, international law & development, and rural policy & planning.

International Institute for Aerial Survey and Earth Sciences/ITC (Internationaal Instituut voor Luchtkaartering en Aardkunde). ITC was founded in 1951 as the International Training Centre for Aerial Survey/ITC; the abbreviation, ITC, has been retained for reasons of tradition and convenience. It is presently the largest of the international institutes with perhaps the most extensive curriculum. Currently enrolling about 400 students per year, ITC had graduated more than 5000 students from approximately 140 countries by 1980. The Institute has its own airplane, and has equipment and laboratories supporting every aspect of manual and computer-assisted cartography, including the processing and interpretation of data acquired by satellite.

The Institute, operated in cooperation with NUFFIC, consists of the Departments of Mining Exploration, Natural Resources, Photogrammetry, and Social Sciences. In addition to a modest library, it counts the International Soils Museum at Utrecht among its resources. Several programs are offered in cooperation with the Delft University of Technology, one both with Delft and the State University of Utrecht, and another with the Polytechnic of Central London. Instruction in all programs is in English, with some programs also offered in French. There are programs in a variety of areas and at different levels, as indicated in Table 8.1. (See Documents 12a and 12b in Appendix B for a course record and technologist's diploma in forest survey from ITC.) Among the programs offered are those leading to diplomas, certificates, and M.Sc. degrees. Until 1972 a B.Sc. was offered. The technician's diploma programs, which range in length from 8 to 12 months, require that the applicant have at least a secondary school leaving certificate and up to two years of relevant experience. The technologist's diploma programs, 12 to 18 months in length, require that the applicant satisfy Dutch university entrance requirements and have up to two years of relevant experience.

Postgraduate certificate programs range in length from 6 weeks to 6 months. Admission

Table 8.1. Programs Offered by the International Institute for Aerial Survey and Earth Sciences

	Months of Study Required				
Major	TCN Dipl.	TLT Dipl.	P–G Dipl.	M.Sc.	P–G Cert.
Aerial Survey	–	12	12	–	–
Cartography	11	12	12	12–18	–
Forest Surveys	–	9	12	12–16	–
Geological Surveys	–	–	4–12	12–16	–
Geomorphological Survey	–	–	3.5–11	12–16	–
Integrated Surveys	–	–	9	12–16	3.5
Mineral Exploration	–	–	11	12–16	–
Photogrammetry	8	12	12	18–22	–
Remote Sensing	–	–	–	–	2
Rural Surveys	–	–	11	12–16	–
Soil Surveys	–	–	7–12	12–16	–
Urban Surveys	–	–	9	12–16	–

Source: Based on information from *Basic Data on International Courses Offered in the Netherlands 1982–83* (The Hague: NUFFIC, 1982), pp. 5–10.

TCN Dipl. = Technician's Diploma; TLT Dipl. = Technologist's Diploma; P–G Dipl. = Postgraduate Diploma; M.Sc. = Master of Science; P–G Cert. = Postgraduate Certificate.

requirements for certificate programs vary, usually involving at least an appropriate bachelor's degree and/or relevant experience, or possibly completion of an appropriate ITC postgraduate diploma course. The postgraduate diploma programs, 4 to 12 months in length, require at least an appropriate B.Sc. degree for admission. (NOTE: First degrees required for admission to IE programs are not necessarily equivalent to U.S. bachelor's degrees.)

Admission to the M.Sc. programs requires applicants to have completed an appropriate ITC postgraduate diploma with a weighted average of not less than 70%. The ITC postgraduate diplomas considered acceptable for admission all involve 9 to 12 months of study. The M.Sc. from ITC requires a further 12 months of coursework and, usually, an additional 4 to 10 months for the completion of a thesis. The M.Sc. is offered in cartography, forestry, geology, geomorphology, integrated surveys, mineral exploration, remote sensing, rural surveys, soil survey, and urban surveys.

The grading scale is as follows: 90-100, excellent; 80-89, very good; 70-79, good; 60-69, pass; 0-59, fail.

Philips International Institute of Technological Studies/PII. The Institute was founded in 1957 and is operated in cooperation with NUFFIC under joint financing by the Philips Corporation and the Dutch government. The Institute offers a one-year program leading to the Diploma in Electronic Design Engineering or to a General PII Diploma. The latter consists of individually selected lectures from those available at the Institute and work in any of the Philips laboratories, not necessarily in electronics (e.g., illumination). Admission to both diploma programs requires an academic degree in electrical engineering or the sciences and is restricted to applicants 30 years of age or younger. After the first semester of the diploma programs, an entrance exam is held for admission to a program leading to the degree of Master of Electronic Engineering. Those selected must complete an additional semester of coursework followed by nine months of laboratory training.

Royal Tropical Institute (Koninklijk Instituut voor de Tropen). Founded in 1910, the Institute today consists of the Departments of Tropical Agriculture, Tropical Hygiene, and Social Research. It offers a one-year master's program known as the International Course in Health Development/ICHD, which is organized in cooperation with the Prince Leopold Institute for Tropical Medicine (Institut de Médecine Tropicale Prince Léopold) in Belgium. The program is offered in French and English. The 1982-83 English version was offered in the Netherlands, and the French version in Belgium. The degree is awarded on the basis of an examination given at the end of the program, and the preparation of a thesis. Designed to impart state-of-the-art skills and methods to those with planning and management responsibilities in health care systems, the program is open to individuals active in the field from developing countries who hold a university degree in medicine and have at least four years' relevant experience.

Institutions/Programs Offering Only Certificates or Diplomas

Barneveld College/BC (Opleidingscentrum voor de Dierveredeling Praktijkschool 'Barneveld'—Training Center for Animal Husbandry Practical School 'Barneveld,' commonly referred to as Barneveld College). BC was founded in 1961 by the International Netherlands Farmers and Market Gardeners' Association. It is a private institution supported by the Ministry of Agriculture and Fisheries. Its offerings for the 1982-83 year consisted of international courses on pig husbandry and poultry husbandry. A basic six-month program was offered in each area with three months' additional training available. Certificates of attendance or diplomas are awarded to the participants in such programs.

depending upon their level of involvement. Applicants are preferably between the ages of 23 and 35 and have attained British General Certificate of Education/GCE 'A' level passes in at least two subjects, preferably biology and mathematics, or an equivalent qualification, and have at least three years of relevant experience. Barneveld College also organizes other courses upon request, optionally taught also in French, and acts as a consulting agency in the field of animal husbandry.

Europa Instituut. Founded in 1960, the Europa Instituut, attached to the University of Amsterdam, offers a one-year International Course in European Integration/ICEI which leads to a diploma. A university degree in law or economics is required for admission. The program deals with economic and legal issues related to the European Common Market. Summer courses of one and two weeks' duration, dealing predominantly with legal issues, are also offered to experienced attorneys and others who might benefit.

Graphic Media Development Centre/GMDC. The Centre offers two four-month programs conducted in English for persons who have at least completed secondary education and have relevant experience: the International Course on Print Production/INCO-PP and the International Course on Graphic Design/INCO-GD.

Hague Academy of International Law/HAIL (Haagse Academie voor Internationaal Recht). Founded in 1923 with the support of the Carnegie Foundation, the Academy offers summer courses dealing with various aspects of international law. A general course, divided into two three-week periods, is open to law graduates and four-year law students. A more advanced four-week course, which examines selected case studies, requires an "advanced academic degree" and at least three years of relevant experience for admission. French and English versions of both courses are offered.

Institute for Housing Studies/BIE. The Institute has retained the initials of its former name, Bouwcentrum (Building Center, usually not translated) International Education. A private independent foundation established in 1947 and reorganized in 1971, its purpose is to stimulate improvement in housing in third world countries. This objective is pursued in two ways. Regional courses are conducted in the countries themselves, and a five-month International Course on Housing, Planning and Building/ICHPB is conducted twice annually in varying topics in Rotterdam at the center itself. One-time attendance can lead to a certificate of attendance, a postgraduate diploma, or a postgraduate diploma with distinction, depending on the level of participation. Successful completion of two programs leads to an advanced postgraduate diploma or advanced postgraduate diploma awarded with distinction. A special version of the ICHPB course is offered concurrently for successful participants in at least one previous program with emphasis on individual project work (10-12 weeks), and leads to an advanced postgraduate diploma (special program). For initial admission, participants must, as a rule, be professionals from third world countries, hold at least a bachelor's degree or its equivalent, be involved in work that has direct bearing on the topics of the course, and have a satisfactory command of English.

International Agricultural Centre/IAC. The Centre was founded in 1952 and is operated in cooperation with NUFFIC. It conducts a number of short courses that do not lead to any formal academic credential. These courses range from one to four months in length and are open to persons with at least an appropriate first degree and several years' experience in the field in question. Subjects offered for the 1983-84 academic year included international courses on dairy cattle husbandry, land drainage, plant breeding, plant protection, potato production, rural extension, and vegetable growing. With the exception of rural extension, the courses are only taught in English. The rural extension course is offered in English, French, and German. Individuals who have at least an M.Sc. degree or the equivalent and several years of relevant experience may pursue an Individual Programme

of Study with the Centre for the purpose of further specialization. Training may also be arranged for groups.

In cooperation with Rabobank Nederland, the International Agricultural Centre conducts a program known as the International Course on Agricultural Credit and Cooperative Banking, which is available to senior officers of rural credit organizations. It does not lead to a formal academic credential.

International Immunology Training and Research Center. Operated in cooperation with NUFFIC, the Center is sponsored by the International Union of Immunological Societies. Advanced training and research programs conducted in English are available to individuals who hold the equivalent of the Dutch *doctorandus* in biology or biochemistry, medicine, or veterinary medicine, or possess professional qualifications in medical technology.

International Institute for Hydraulic and Environmental Engineering/IHE. The Institute, founded in 1957, is operated jointly by NUFFIC, and the Delft University of Technology with material assistance from UNESCO, the World Meteorological Organization/WMO, and the World Health Organization/WHO. Instruction is in English and is given largely by part-time visiting lecturers. The following 12-month diploma programs were offered by 1983-84 to applicants with appropriate first degrees and at least three years of relevant experience: international courses in environmental science and technology; hydraulic engineering, hydrology, and sanitary engineering I and II. Also scheduled was a five-week international seminar on port management open to qualified professionals active in the field, preferably holding a university degree.

International Institute for Land Reclamation and Improvement. The Institute was founded in 1955 with the assistance of the Kellogg Foundation. It is presently state financed and controlled jointly by the Agricultural University, and the Ministries of Agriculture and Fisheries, Transport and Public Works, and Development Aid. A certificate program in land reclamation and improvement, conducted in English, is offered to candidates who have an appropriate university degree and professional experience.

International Maritime Transport Academy. The Academy is a cooperative effort of the higher vocational (HBO) Nautisch College 'Noorder Haaks,' Plymouth Polytechnic (United Kingdom), the Royal Naval Institute, the Netherlands Shipowners Association, and the Maritime Research Institute. The Institute offers a one-year program (September-May), conducted in English, known as the International Course in Shipping Management Studies. As a rule, applicants must have an appropriate first university degree or comparable professional qualifications. The first term of the program is an introduction to managerial principles as related to the shipping industry. The second term is problem oriented, utilizing case studies. Throughout the program, students work on a project dealing with a real problem. Successful completion of the program leads to the Diploma in Management Studies/DMS. Recognized in the United Kingdom, this diploma gives exemption from the exams required for corporate membership in the British Institute of Management and the Chartered Institute of Transport.

International Union of Local Authorities/IULA. An international organization founded in 1913, IULA fosters international contact among local authorities or the national organizations representing the local governmental authorities of participating countries. IULA's Training Department conducts two or three international courses in comparative local government annually. These courses are six to eight weeks in length and a certificate of attendance is awarded. At various times courses are offered in English, French and Spanish. Both elected and appointed local government officials and civil servants are eligible to participate.

Leiden-Amsterdam-Columbia Summer Program in American Law. A summer program in American law is held in Leiden and is conducted jointly by the State University, Leiden, the University of Amsterdam , and Columbia University. The four-week intensive introduction to American law is conducted in English and leads to a certificate. Participants must either be graduates or advanced students of law.

Ministry of Education and Science (Ministerie van Onderwijs en Wetenschappen). The Ministry directly sponsors a three-week practical course in Dutch language and culture held in the summer. It is an advanced course open to native speakers of English, French, and German, providing them with the opportunity for practice in both written and oral communication in Dutch and with an exposure to Dutch life and culture.

National Agricultural College Deventer/NACD (Rijks Hogere Landbouwschool te Deventer). This higher vocational (HBO) institution offers higher agricultural education (HLO) programs of the type described in Chapter 4. Like the Agricultural University, this college has made a commitment to participate in the IE system. Three 10-month diploma programs, conducted in English, are offered and directed mainly to the needs of developing countries. International courses offered include farm mechanization, teacher training in agriculture, and tropical animal production. Admission requires at least a certificate or diploma from a school of agriculture (tertiary level) and relevant experience.

Netherlands Institute for Tourism and Leisure Studies/NWIT (Instituut voor Hoger Recreatief en Toeristisch Onderwijs). Discussed in Chapter 4 under higher economic and administrative education (HEAO), the Institute offers a 12-week Tourism Management Course in cooperation with the West German Carl Duisberg Gesellschaft (Carl Duisberg Society). This course, conducted in English and held partly in Breda (Netherlands) and partly in Munich (West Germany), is open to those working in the field with at least two years' experience and an "advanced educational level." No formal academic credential is offered.

Netherlands Universities Foundation for International Cooperation/NUFFIC (Stichting der Nederlandse Universiteiten en Hogescholen voor Internationale Samenwerking). NUFFIC functions on the whole as the coordinating body for Dutch international education/IE programs. It has, however, in the past directly organized, and continues to organize, specific programs. Most recently this is true of the International Course on Industrialization/ICI, which is given in collaboration with the Agricultural University, the Royal Tropical Institute and the Food and Agricultural Organization/FAO, of the United Nations. The one-month course, conducted in English, emphasizes agriculturally-based industry and is open to persons with experience in the field and, preferably, at least a first university degree. The course leads to a certificate.

Nijenrode, the Netherlands School of Business (Stichting Nijenrode Instituut voor Bedrijfskunde). Nijenrode is a private school of business granted university (hogeschool) status by the Dutch Ministry of Education and Science in 1982 (see Chapter 7). Nijenrode's inclusion in this chapter is based primarily on its one-year International Business Program/IBP, which was established to accommodate exchanges with various U.S. institutions (*junior year abroad*), but which also admits students on an individual basis, according to the availability of places. Admission to the international program requires junior standing at a U.S. institution with a minimum 2.5 (out of 4) grade point average or the equivalent. The same category of students is served by Nijenrode's summer school.

It should also be noted that Nijenrode officials refer to the final year of their new-style four-year *doctoraal* program as their MBA program. The first three years of this program

have been carried over from the past and continue to be know as the A program (*A-studie*). The *A-studie* diploma is often referred to by Nijenrode officials as their BBA. Although it is not yet clear whether it will be formally considered part of the IE sector, at least the final year of the new *doctoraal* program, referred to by Nijenrode officials as the MBA program, will be offered in English and will be open to foreign students beginning in 1985. Reportedly, the actual diploma awarded will be in English and will be called the Master of Business Administration (MBA).

Philips International Telecommunications Training Centre/PITTC. The Centre was founded in 1962 and is operated in cooperation with NUFFIC. Certificates of attendance are awarded for courses several weeks to more than two years in length which deal with various aspects of modern telecommunications equipment, software, and theory. Courses for 1983-84 included the following: data communications (16 weeks); general transmission (25 weeks); microwave and satellite communication (34 weeks); private branch exchange (14 weeks); public telephony (20 weeks); and radio communication (13 weeks). All courses are taught in English.

Radio Nederland Training Centre/RNTC. Administered by Radio Netherlands International (Radio Nederland Wereld Omroep), RNTC offers courses in radio, television, newspaper journalism, and programming of three to four months each. General courses are available to professionals currently employed in the field with at least two years of experience. Specialized courses are offered to professionals presently working in the field with at least five years' experience. Candidates for RNTC courses must guarantee that they will return to their place of employment after completion of their program, and employers must guarantee that they will be permitted to return. All courses are conducted in English.

Research Institute for Management Science/RVB (Research-Instituut voor Bedrijfswetenschappen/RVB). A small but independent institution enrolling fewer than 60 sudents, RVB is sponsored by NUFFIC and the Delft University of Technology. It is dedicated to research in the field of management, particularly as it relates to developing countries. Admission requirements include a relevant bachelor's or master's degree or the equivalent, at least one and one-half or two years of relevant professional experience, and adequate proficiency in English.

The curriculum varies from year to year. Two 21-week diploma programs, conducted in English, were offered in 1983-84: a three-module program referred to as Post Graduate Programmes in Management and Industrial Extension for Developing Countries' Executives; and the International Course on Regional Industrial Development for Executives (RIDE).

Textile Engineering College. The College, located at Enschede, actually a department of Enschede's Municipal Institue for Higher Vocational Education 'de Maere' (Gemeentelijk Instituut voor Hoger Beroepsonderwijs 'de Maere,' commonly referred to as IHBO 'de Maere'), offers a textile management course of six months' duration, geared to the needs of production managers and technical staff. Admission requirements include at least a secondary school certificate and at least two years' experience in the field.

The Role of the National Council on the Evaluation of Foreign Educational Credentials

The placement recommendations that follow have been approved by the National Council on the Evaluation of Foreign Educational Credentials. In order that these recommendations may be of maximum use to admissions officers, the following information on the development of the terminology used in stating the recommendations, along with instructions for their use, is offered by the Council and the World Education Series Committee.

The recommendations deal with all levels of formal education in roughly chronological order up through the highest degree conferred. Recommendations, as developed through discussion and consensus in the Council, are not directives. Rather, they are general guidelines to help admissions officers determine the admissibility and appropriate level of placement of students from the country under study.

The recommendations should be applied flexibly rather than literally. Before applying the recommendations, admissions officers should read the supporting pages in the text and take into account their own institutional policies and practices. For example, a recommendation may be stated as follows: ". . . may be considered for up to 30 semester hours of transfer credit. . ." The implication is that the U.S. institution may consider giving less than or as much as one year of transfer credit, the decision to be based on various factors—the currentness of the applicant's transfer study, applicability of the study to the U.S. curriculum, quality of grades, and the receiving institution's own policies regarding transfer credit. Similarly, the recommendation ". . . may be considered for freshman admission" indicates possible eligibility only; it is not a recommendation that the candidate be admitted. Although consideration for admission at the same level may be recommended for holders of two different kinds of diplomas, use of identical phrasing in the recommendation does not mean that the two diplomas are identical in nature, quality, or in the quantity of education they represent.

In most cases, the Council will not have attempted to make judgments about the quality of individual schools or types of educational programs within the system under study. Quality clues are provided by the author and must be inferred from a careful reading of the text.

Certain phrases used repeatedly in the recommendations have acquired, within Council usage, specific meanings. For example, "through a course-by-course analysis" means that in dealing with transfer credit, each course taken at the foreign institution is to be judged on an individual basis for its transferability to the receiving institution. Another phrase "where technical training is considered appropriate preparation" suggests that the curriculum followed by the candidate is specialized, and this wording is often a hint that within the foreign system the candidate's educational placement options are limited to certain curriculums. However, while the Council is aware of the educational policies of the country under study, the Council's policies are not necessarily set in conformity with that country's policies. Rather, the recommendations reflect U.S. philosophy and structure of education.

In voting on individual recommendations, Council decisions are made by simple majority. Although consistency among volumes is sought, some differences in philosophy and practice may occur from volume to volume.

Chapter 9

Guidelines and Placement Recommendations

Guidelines

Stratification in Dutch Education

Dutch education is characterized by a high degree of stratification even though some changes are being implemented and others are planned. For example, an experiment with comprehensive secondary education (at least through grade 10) has been underway for some time, but it apparently will remain an experiment for the immediate future. In addition, a law that would provide for an integrated system of higher education is currently under consideration; however, at least for the moment higher vocational and university education are, as in the past, sharply divided. Some of the reasons for, and one of the consequences of, this stratification, as well as its implications in the evaluation of Dutch credentials, are explored below.

Early Streaming. Beyond grade 6, Dutch children are enrolled in educational programs based on what are perceived to be distinctions in aptitude. Those considered to have the least aptitude for academic success are placed in lower vocational programs (LBO) which enroll about 33% of the age group. Theoretically, grade 7 has a common curriculum. In practice, grade 7 of the LBO program is not the same as that of general secondary grade 7 programs. Also, pupils often already have been admitted to a specific program, and sometimes the different programs are offered by separate institutions.

General secondary education programs following grade 6, listed in ascending order of perceived academic difficulty, enroll approximately the following percentages of pupils: intermediate general secondary (MAVO), 33%; higher general secondary (HAVO), 20%; and university preparatory (VWO), 13%.

To a great extent, the secondary stream determines a student's opportunities for further education. LBO graduates of above average ability may be admitted to a related intermediate vocational (MBO) program, and perhaps subsequently (often after a total of 14 years of formal education) to a related higher vocational (HBO) program. Intermediate general secondary (MAVO) graduates have a wider range of access to MBO programs, but only limited access thereafter to related HBO programs. Higher general secondary (HAVO) graduates have broad opportunities for higher vocational (HBO) education, but are not directly admissible to the universities. Only the graduates of pre-university (VWO) programs enjoy access to both a wide range of HBO and university programs.

Educational Level. In the Netherlands, it is common to think of educational achievement in terms of "levels." The level of education appears to be essentially a function of the subject matter involved, particularly in respect to depth of coverage and degree of sophistication. The diploma awarded on completion of a program is the external indicator of a particular educational level. The Dutch system of education lends itself well to looking at student accomplishment this way. Many programs, particularly at the secondary level, require major comprehensive examinations, which are usually nationally coordinated as to standards and content. Adding a further dimension of concreteness to the "level" concept is the extent to which program content is often nationally defined. In primary and secondary education, to a certain extent, the curriculum is even specified by law. Finally, diplomas often give legally defined rights of access to further education, or to certain types of employment or private practice. For example, the university preparatory (VWO) diploma represents a rather concrete level of achievement, to some extent independent of the time spent in school or the age of the person who has earned it. It also represents more than just the satisfactory completion of a sequence of courses, selected from a fixed list of academic subjects. The passing of national examinations is required for the completion of all VWO programs; these examinations exert a definite influence on the uniformity of standards and curriculum. The VWO diploma is, in fact, intended to convey specific information about achievement levels in the subjects examined. Those students who receive the VWO diploma have a legal right to study at Dutch universities and are by international agreement considered admissible to most other Western European universities (see Chapter 7). Furthermore, the universities presume a degree of basic competence in the VWO examination subjects to be used as a foundation for more advanced studies. Students seeking admission to programs for which they lack the proper prerequisites must pass additional examinations in the subjects required.

That the VWO diploma represents a degree of competence considered to be two years beyond the HAVO diploma is widely accepted in the Netherlands. Similarly, the MAVO diploma is considered to fall two years short of the HAVO diploma. In each case, the actual duration of the respective programs differs by only one year. To varying degrees, this concept of educational levels is found throughout Dutch education.

Academic vs. Vocational. In the Netherlands, the "level" concept is intertwined with the dichotomy between practical or vocational education and theoretical or academic education. Efforts have been made and continue to be made to break down the barriers between vocational and academic programs, but the fact that low potential for academic achievement is still associated with the vocational sector cannot be ignored. The lowest achievers, as a rule, enter vocational programs earliest, while those who seem to have the greatest potential for learning are by and large encouraged toward theoretical studies ultimately leading to a university degree. Socially, the university degree is still seen by many as the height of educational achievement, an unfortunate situation in certain fields where no university programs are offered.

The depth of the dichotomy between vocational and academic education perhaps is best illustrated by considering the 1963 Secondary Education Act (implemented 1968) and some of its ramifications. The Act clearly demonstrates the traditional view held with repect to higher vocational education (HBO). This law treats higher vocational education as a form of secondary education. Among other things, the law specifies that instructors for HBO programs must possess the same level of qualification required to teach in the upper grades of higher general secondary (HAVO) and pre-university (VWO) programs.

Higher vocational education (HBO) is now officially recognized as a form of higher education; efforts at improved articulation with university programs have been initiated and a new law regulating it together with university education has been drafted. However, the polarity between university and higher vocational education continues to exist and it may be some time before an integrated system of higher education is achieved.

Student Mobility. The aspects of Dutch education discussed above (early streaming, rigid academic levels, and the polarity between academic and vocational education) have one obvious consequence: transfer opportunities from one institution or program to another become limited. Transfer difficulties begin with grade 7, the so-called transition class (*brugklas*). Intended as a means of permitting lateral transfer between programs, the *brugklas* has had only limited success in facilitating transfer between the various general secondary programs. And because of differences in the curriculum, transfer from lower vocational (LBO) programs into general secondary programs is almost precluded. Although transfer is allowed beyond grade 7, a loss of at least a year is nearly always involved in going from one general secondary program to another considered more difficult. Beyond grade 7, transfer from vocational to general secondary programs is virtually impossible.

In the higher vocational (HBO) and university sectors, transfer between different programs within each sector ranges from difficult to impossible. Transfer from HBO institutions to the universities, and vice versa, is possible, but only within narrowly defined limits in a few closely related programs (see Chapter 7, "Transfer Between Higher Vocational Institutions and the Universities"). Even transferring from one institution to another at the university or HBO levels in order to continue with the same program is not nearly as commonplace or as easily accomplished as in the Unites States. Because programs tend to be more rigidly organized than at U.S. institutions, and because usually no credit system is employed, students may have to repeat a year or a term even though they have been exempted from certain subjects. At all levels, the efforts of the Ministry of Education and Science to improve student mobility are only gradually wearing down barriers that have existed for decades.

Implications for Evaluating Dutch Credentials. In general, because of the stratification of Dutch education, knowing the type of program a student has completed is valuable information for U.S. admissions officers. For example, a student that has gone from a four-year lower vocational (LBO) program into a terminal two-year intermediate vocational (MBO) program has had 12 years of formal education; but the higher general secondary (HAVO) graduate, with only

11 years of formal education, has been exposed to a more competitive, academically demanding environment, and has concentrated on general education and basic skills preparing for further study.

The university preparatory (VWO) diploma demonstrates further that a Dutch credential may be judged by the program it represents. The national examinations required for the VWO diploma may be compared to the achievement tests offered by major U.S. testing services, such as the College Level Examination Program (CLEP). The national VWO examinations cover specific subject matter at an advanced level (see Chapter 4) in a battery of high security, standardized examinations. The grades earned on these exams may also be used to rank students. (See "Grading Practices" below.) Because of the selective admission and retention practices in VWO programs, the diploma in conjunction with school records can also serve as a reliable indicator of student aptitude when such factors as grades and repeated classes or examinations are taken into account.

Because of the distinction made between vocational and academic education in the Netherlands, U.S. admissions officers are faced with a sometimes perplexing fact: many practically oriented programs, often similar to those offered by U.S. universities, are not offered by Dutch universities. These programs include, among others, those in such fields as business administration, the fine arts, home economics, industrial technology, music, nursing, social welfare, and primary and secondary teacher education, etc. Such programs are offered by higher vocational (HBO) institutions. The admissions standards for HBO programs, the fact that an effort to integrate higher vocational and university education is underway, and the essential role played by HBO graduates in Dutch society, all support the position that, in many cases, such programs are comparable to vocationally oriented college and university programs in the United States. Nevertheless, HBO programs attract students representing a much broader spectrum of abilities and backgrounds than is found at the Dutch universities, and the programs themselves tend to be more narrowly focused than comparable U.S. programs.

Dutch academic credentials reflect the lack of student mobility and the Dutch perception of credentials as representative of a definite educational level requiring no further explanation. They usually attest to the completion of a program or some major segment of a program but lack the kind of detail, e.g., units or courses completed, that would facilitate transfer or might otherwise be needed to judge the nature of the program involved. There are, however, some indications that this may be changing, especially at the universities.

Dutch Credentials

"Official" Transcripts. On the whole, Dutch institutions are in a position to provide the kind of credentials requested by U.S. admissions officers if adequate time is allowed and it is made sufficiently clear what is needed. Thus, if it is the policy of the U.S. institution to accept only documents sent directly by the office issuing them, it is very likely that such a request would be honored. However,

since the standard practice in the Netherlands is to issue official records such as diplomas and exam results directly to the students, students requesting such a service from an institution may be required to furnish evidence that this direct transfer of their records is actually necessary. Documents issued directly to the student are usually considered adequate for purposes of employment and admission to further education in the Netherlands.

English Translations. Dutch institutions often have standard English translations of their usual certificates and diplomas available. If not, school officials will as a rule provide a specially prepared translation, or certify the accuracy of one prepared commercially. It would be unusual indeed to find any educational institution in the Netherlands that did not have at least several staff members competent enough in the English language to provide such a service. In spite of this ready availability of English translations, it is highly advisable to also request at least copies of the original documents in Dutch. Translations, especially when dissimilar educational systems are involved, inevitably inspire some degree of interpretation. Though usually well meant, and probably falling well within the legitimate range for rendering the Dutch into English, translations sometimes make it difficult, if not impossible, to determine what a qualification actually represents in terms of the Dutch educational system. In other cases, explanatory comments may be offered that are well meant, but which do not appear on the original document and may differ from the conclusions an evaluator would arrive at working independently with the originals. Because no exact equivalents exist between U.S. and Dutch terms representing various levels and types of educational achievement, translations using standard U.S. terminology, e.g., bachelor's or master's degree, should be used only together with a copy of the original Dutch document (except in the case of international education credentials; see Chapter 8) to ensure that the students' accomplishments are interpreted correctly. Even with a careful literal translation that makes the correct interpretation seem obvious, a quick check of key terms on a copy of the Dutch original is a worthwhile precaution.

Basic Types of Credentials. At virtually all levels of education, two types of documents will be readily available if the student completed the program in question. As in the U.S., diplomas (same word in Dutch) or certificates (*akte*) are issued when a program is completed. (See Appendix B, Documents 2b & c, 3b & c, 4c, 6b & c, 7b & c, and 12b, for examples.) A certificate that gives specific information on the student's academic achievement is also issued. Usually called a grade list (*cijferlijst*) or evaluation list (*beoordelingslijst*), it shows grades earned on examinations, classroom performance, papers, projects, laboratory work, and/or practical training, depending on the nature of the program—all considered key criteria in awarding the qualification in question. The grade or evaluation list may have no particular heading at all and will generally accompany the diploma. (See Documents 3a, 7a, and 8 for examples.) Since credit systems are not commonly used, neither the diplomas nor accompanying grade lists usually give this type of information. The period of enrollment in a program may be reflected, but sometimes only the dates of examinations or the issuance of the diploma appear.

In some cases, a statement which attests to the completion of a particular examination or segment of a program and which sometimes resembles a diploma may be issued. The key is usually in the use of the word *verklaring* (declaration or statement) as a heading where the word *diploma* ordinarily would be. (See Appendix B, Document 6a for an example.)

Dutch institutions at all levels do keep reliable records of enrollment, attendance (in primary and secondary schools), and term-by-term performance in each subject, but these records are not customarily used to produce transcripts in the U.S. sense. Report cards (*rapporten*) giving this kind of detailed information are issued to the students at the primary and secondary level and by some higher vocational (HBO) institutions. (See Appendix B, Documents 4a & b for examples.) Some institutions might be able to furnish copies of these report cards if copies are not available or cannot be accepted from an applicant.

Diploma Names. Fortunately for U.S. admissions officers the names of diplomas follow rather uniform patterns throughout much of the Dutch educational system. Usually, the successful completion of programs from the secondary through the higher vocational levels is marked by the awarding of a document which bears the heading *diploma* (or in earlier times *getuigschrift*). The educational level is specifically identified either by the type of education or institution or both, usually immediately below or just above the word *diploma*. If the type of education includes several possible streams or majors, the one followed will also be identified. Dutch diplomas identify the recipient by full name, and give the place and date of birth. Every diploma bears the number of the article of law regulating the program involved, the date and place the diploma was issued, and the signatures required to make its issuance official. If the diploma is awarded by or through an institution, its name will appear on the document.

While the order of the information may vary somewhat, the structure of Dutch education is regulated by law, and only authorized terminology (see the previous chapters and the glossary) may be used to refer to a particular program. For example, a diploma issued for completion of an electrical technology program at a higher technical school (HTS), which is part of the higher vocational sector (HBO), will in addition to the word *diploma* be clearly marked *hoger technisch onderwijs* or have the words *hogere technische school* on it or, in most cases, both—clearly identifying that this is an HBO qualification from the higher technical sector. In addition, the major field, in this case *elektrotechniek*, will be given if more than one option is offered. (See Appendix B, Documents 2b, 3b, 4c, 6b & c, and 12b, for examples.)

One possible point of confusion might be between the names of technical universities and higher technical schools, and between the names of higher agricultural schools and the Agricultural University. While there is usually little resemblance in the qualifications issued, it may be reassuring to know that a technical university is always called a *technische hogeschool*, while its HBO counterpart is called a *hogere technische school*. Similarly, a higher vocational school of agriculture is called a *hogere landbouwschool*, while the Agricultural University is known as the "Landbouwhogeschool." The law allows no possibility for one institutional type to adopt the format of another's name.

University Credentials. University credentials of the traditional type may not have the word *diploma* as a heading. They are sometimes in Latin, and usually attest to the completion of the *kandidaats, doctoraal*, and, in some programs, the *propaedeutisch* examinations. Other than the name of the university, the name of the student and the subjects examined, there is little uniformity in the traditional credentials issued by Dutch universities. However, Faculty records offices will, as a rule, attempt to provide English translations and supplementary information if it is made clear what is desired. (See Appendix B, Documents 8 through 10, for examples.)

The Two Phase Structure Act, effective fall 1982, has several provisions which are having an impact on university record keeping. While it would be an exaggeration to say Dutch universities are going to be issuing American-style transcripts, the new *dossier-verklaring* ("record-statement") and *dossier-diploma* ("record-diploma") will be providing more of the detailed information U.S. admissions officers are interested in. To this end the *dossier-verklaring* (or simply *verklaring*) will provide a detailed record of such things as examinations, laboratory work, seminars, and other evaluated learning experiences completed by the student. And, in some cases progress toward the degree may be reported in terms of some kind of credit system, discussed later in the chapter. The *dossier-diploma* (or just *diploma*) is simply the final version of the student record, issued when all degree requirements have been met. These new records will undoubtedly be more uniform. (See Appendix B, Document 8, for an example.) As articulation between the higher vocational (HBO) and university sectors improves and with the eventual regulation of both under the same law, it is reasonable to expect that HBO records will increasingly follow patterns similar to those being implemented at the universities.

Teaching Credentials. Teaching credentials form a general class of exceptions to the above. Although the word *diploma* may appear on the qualification issued, it is the word *akte* (certificate) that is almost always the key word here. Usually one sees the heading *akte van bekwaamheid* (certificate of competence) on such qualifications. This will be followed by the nature of the qualification (e.g., *akte van bekwaamheid als leidster bij het kleuteronderwijs*) which is the qualification received by those successfully completing a preprimary teacher education program. The names of the more common teaching qualifications and what they represent are given in Chapter 5 and in the glossary. (See Appendix B, Documents 7a, b, & c.)

Examinations

Unlike the interchangeable use in English of such terms as "test," "examination," and "exam," the Dutch terms denoting tests are related to their magnitude and function. The term *toets* indicates a relatively brief test or quiz and corresponds most nearly to the tests or quizzes given during a semester at U.S. institutions. The *tentamen*, sometimes translated as preliminary examination, is a test covering an entire area of study, such as an introductory survey of the major field or a body of knowledge supporting the major. As a rule, a *tentamen* would follow a

semester's, or more commonly, a year's work and corresponds most closely to a final examination at U.S. institutions. Traditionally, the term *examen* has referred to the large-scale testing that takes place at the end of a major program segment or an entire program, particularly at the secondary level, in a number of subjects, and covers at least a year's work. In that sense, the *examen* is perhaps most like the comprehensive examinations required in many U.S. programs, especially at the graduate level.

It is extremely important to note that in modern usage these Dutch terms denoting tests have taken on additional meanings. Frequently, most notably at the universities, *examen* now refers to a cumulative evaluation, i.e., a record of having met specific requirements on an ongoing basis for an entire program or major portion of a program, such as the preliminary year. In this sense, the *examen* is a report on the results of various tests (*toets* or *tentamen*), the evaluation of practical training experiences, laboratory work, and/or the grades received for papers or projects. The term *tentamen* sometimes also denotes a report about tests taken at different times and the meeting of other requirements, rather than a single examination taken at one time. If it is necessary to know whether the terms *examen* or *tentamen* refer to an actual examination or to a cumulative evaluation, it is best to contact the institution involved directly. Sometimes, however, this may be evident from the dates of *deelexamen* (partial examinations), or the dates on which other requirements such as projects or papers listed as part of the *examen* or *tentamen* were completed.

Grading Practices

The 1-10 Grading Scale. By far the most widely used grading scale, spanning elementary through university education, is the one given in Table 9.1. Furthermore, the available evidence suggests that there are strong similarities in the distribution pattern of these grades among the various sectors. In talking to Dutch educators, one may hear the comment, in jest, that grade 10 belongs to God or at least to the principal. The summary in Table 9.2 of all grades awarded in the national final examinations of the intermediate general secondary (MAVO), higher general secondary (HAVO), and pre-university (VWO) sectors in 1980 for the entire country tends to lend some substance to that comment. In fact, of 28,766 grades reported, there were only 27 grades of 10.

There is also little question that 9 represents a high level of achievement in view of the relatively few students attaining that standard. Consequently, there is little difficulty in equating 9's and 10's with the top of a 5-point grading scale, e.g., with an A in using the common A, B, C, D, E (or F) scale. Determining the corresponding grade to the Dutch 8 on such a scale becomes a bit more problematic. Dutch officials and educators from all sectors feel that 8 represents solid achievement, and in Table 9.2 it represents only about 10 to 18% of the grades awarded to any given group of secondary students. Whether or not to call it an A or B or something in between should, as a result, probably be based to some extent on the way grades are distributed at an admissions officer's institution. Grades of 6 and 7 accounted for more than 66% of all grades awarded, and a

Table 9.1. Most Common Grading Scale in the Netherlands

Numerical Grade	Dutch	English	Suggested Equivalent
10	*uitmuntend*	excellent	A+
9	*zeer goed*	very good	A
8	*goed*	good	A–
7	*ruim voldoende*	amply sufficient	B
6	*voldoende*	sufficient	C
5	*bijna voldoende*	almost sufficient	D
4	*onvoldoende*	insufficient	F
3	*gering*	low	F
2	*slecht*	bad	F
1	*zeer slecht*	very bad	F

Table 9.2 Summary of Grades Awarded in the 1980 National Final General Secondary and Pre-University Examinations in All Subjects

	MAVO	HAVO	VWO	Overall
Grade Awarded	%	%	%	%
10	0.01	0.05	0.17	0.06
9	1.08	1.12	4.13	2.12
8	13.09	10.41	18.39	13.54
7	35.82	35.07	34.82	35.37
6	35.21	37.73	31.20	35.06
5	11.33	12.35	9.23	11.16
4	2.38	2.81	1.73	2.36
3	0.23	0.37	0.29	0.29
2	0.02	0.09	0.02	0.04
1	0.00	0.00	0.00	0.00
Mean of Grades	6.51	6.40	6.71	6.52
Standard Deviation	1.01	1.00	1.08	1.03
No. Taking Tests	2,282	1,429	929	4,640
No. of Grades Reported	13,692	8,572	6,502	28,766

roughly equal percentage (ca. 35%) of each was given. An institution where 15 to 20% of the grades awarded are A's and 30% or more are B's might justifiably equate a 7 to B, while this would be inappropriate where more severe grading practices prevail. Since a 6 is always considered a respectable grade, it is strongly urged that it not be considered to represent anything lower than a C. A grade of

5, though unacceptable as an average, is nearly always passing in a single subject where the other grades are sufficiently high and provided that the average is at least 6, although the regulations may be more complex than that. This use parallels the use of D in the undergraduate grading patterns of many U.S. colleges and universities. In the data examined there was not a single occurrence of grade 1, and 2's were scarcer than 10's, but it would appear there is not much to be gained by attempting to make distinctions among grades of 4 or less, since they all represent clear-cut failure.

The distribution of grades examined in smaller samples from the intermediate and higher vocational programs followed a virtually identical pattern to that found in the general secondary (HAVO) and pre-university (VWO) programs. Furthermore, the comments of Dutch educators and Ministry of Education and Science officials tend to support the view that the major features of the grading distribution revealed by the analysis of secondary grades hold wherever the 10-point scale is used, namely the extreme scarcity of 10's, the low percentage of 9's, the modest use of 8's, and the high frequency of 6's and 7's.

Other Grading Systems. While the 1-10 grading scale is by far the most common, the *gymnasia*, currently the least prevalent form of pre-university institutions, have been reported to traditionally employ a 5-point scale defined as follows: 5 = excellent; 4 = good; 3 = passing; 2 and 1 = failing.

At the universities, grading is frequently on a pass/fail basis and departmental (Faculty) policy determines the type of grading employed for a particular educational activity or examination. In addition to the 1-10 scale described earlier, there are also descriptive ratings which show some variation as indicated in Table 9.3.

Because the Ministry of Education and Science only recommends but cannot prescribe the exclusive use of the 1-10 grading scale, other variations may also occur. In the primary sector, comparative grading is not used at all by a few institutions whose philosophy holds that this is not in the best interests of the children's educational development. Similarly, more advanced institutions, most notably the social academies of the higher vocational (HBO) sector, may report on student accomplishments in terms of descriptive narratives. However, such institutions will often convert their narrative evaluations into the conventional 1-10 grading scale if requested to do so.

Table 9.3. **Descriptive Student Ratings Employed at the Universities**

Dutch	English
uitmuntend	excellent
zeer goed (or *cum laude*)	very good (or, Latin, "with praise")
zeer or ruim voldoende, or *met genoegen*	very or amply sufficient, or with satisfaction
voldoende	sufficient
onvoldoende	insufficient
slecht	bad

Conversion to U.S. Units of Credit

Dutch Systems of Credit. At Dutch universities, systems of credit are currently being employed by an increasing number of Faculties. Unlike U.S. credit systems the units are usually defined in terms of total student load, including readings and papers prepared outside class. One such unit, the study unit (*studie-eenheid*/SE) employed at the Eindhoven University of Technology, is defined as 70 hours of work for the student. Courses in the Sub-Department of Mathematics and Social Sciences, for example, are offered in blocks (*b'okken*), usually with a weight of 2 SE's. One block would involve about 2 hours of lecture per week, for the first 9 weeks of Eindhoven's 13-week trimester; it also includes about 600 pages of readings (depending on the subject matter), and preparation for and the taking of an examination during the remainder of the term. Based solely on the total number of hours of work for the student, the SE may be thought of as slightly larger than two U.S. quarter units.

At Twente University of Technology the "expenditure" unit (*bestedings-eenheid*/BE), defined as 25 hours of study, is used. The BE also includes time spent by the student in study outside the classroom. In courses based on lectures, the expectations for outside work are similar to those of many U.S. institutions, i.e., about 2 hours of outside study for each hour of lecture. Consequently, a class based on approximately 30 hours of lectures per term requires about 100 hours of work by the student and has a weight of 4 BE's. Based both on how it is used in the context of the class time spent in lectures and on its definition, the BE may be considered to represent about half a semester hour.

At the State University of Groningen yet another unit, the study point (*studiepunt*/SP), is used. An SP is defined as one week of work for the student (about 40 hours). The new four-year programs require a minimum of 168 SP's. Based on the number of SP's required for a four-year program, the SP would appear to be somewhat similar to a U.S. quarter unit, though a bit larger.

As the preceding examples demonstrate, there is not a standard unit of credit at present, and the definitions of the units in use vary widely. Even at the same institution, practices may vary from Faculty to Faculty. Currently, credit units are rarely shown on the records issued.

Converting Hours of Study to Semester Hours. In the majority of Dutch educational programs, progress is presently not recorded in terms of units or credits of any kind. However, because of the relatively high degree of regulation and planning characterizing most of Dutch education, there often is enough information available to convert students' accomplishments into units of credit.

For the conversion it is necessary to have a timetable or syllabus giving the number of hours spent on each subject studied. (Some common representative timetables for the more popular programs are given in this volume.) Institutions usually can furnish the necessary syllabuses or timetables, although usually these will be in Dutch and require translation. When using such materials, it is important to ascertain whether or not the hours shown for the program include the student's outside study time, especially when considering Dutch university and higher vocational (HBO) programs where the descriptions are given in

terms of blocks of hours allocated to a subject area rather than the number of standard 50-minute periods of instruction (such as lectures, labs, or seminars) received per term or per year.

If the total number of hours given does not include outside study time, dividing the number of hours of lecture or seminar by 15 (or another factor consistent with the evaluating institution's policies) would give an approximate semester-hour equivalent. Similarly, dividing the number of hours spent in laboratory or studio experiences by 30 or 45 (again based on the evaluating institution's own definitions) would give an approximate semester-hour equivalent. Where it is obvious that the number of hours does include outside study, such as time spent on readings or the preparation of reports, it is still possible to convert to semester hours. Admissions officers must, however, be willing to assume that, overall, Dutch students will have spent proportionately the same amount of time in outside study and laboratory or studio experiences as U.S. students. One possibility for converting to semester hours in such a case is to divide the number of hours given for each area by 45. The factor 45 assumes that lectures and seminars require 2 hours of outside preparation on the average for each hour spent in class and that 3 hours of laboratory or studio work equal 1 semester hour. The suggested conversions are summarized as follows:

—hours in lecture or seminar only / 15 = number of semester hours;

—hours in lab or studio only / 45 = number of semester hours;

—hours including student study time / 45 = number of semester hours.

Useful Addresses

Though not evaluation services, the following agencies can provide helpful information on Dutch education in general.

—Ministry of Education and Science, International Relations Department (IB), P.O. Box 20551, 2500 EN The Hague.

—Netherlands University Foundation for International Cooperation (NUFFIC), Badhuisweg 251, P.O. Box 90734, 2509 LS The Hague.

For specific information about agricultural education, contact the Ministry of Agriculture and Fisheries, Directorate of Agricultural Education, Bezuidenhoutseweg 73, P.O. Box 204001, 2500 EK The Hague.

For someone interested in studying in the Netherlands, the best source of information is the Foreign Student Service (FSS), Oranje Nassaulaan 5, 1075 AH Amsterdam.

Placement Recommendations

Educational Background of Students from the Netherlands	Placement Recommendations for U.S. Admissions Officers
A. Secondary Credentials	
1. Holds a diploma from a *lager beroepsonderwijs*/LBO (lower vocational education) program in one of the following selected categories (pp. 19-21): *lager landbouwonderwijs*/LLO (lower agricultural education); *lager economisch en administratief onderwijs*/LEAO (lower economic and administrative education); *lager huishoud- en nijverheidsonderwijs*/LHNO (lower home economics education); *lager middenstands-onderwijs*/LMO (lower retailer's education); *lager technisch onderwijs*/LTO (lower technical education).	May be considered for placement in grade 11 of secondary school.
2. Holds a diploma from a *middelbaar algemeen voortgezet onderwijs*/MAVO (intermediate general secondary education) program (pp. 14-15)	
a. received upon completion of a 3-year program (MAVO-3), a total of 9 years of education.	May be placed in grade 10 of secondary school.
b. received upon completion of a 4-year program (MAVO-4 or MAVO).	May be placed in grade 11 of secondary school.
3. Holds a certificate or diploma from a *middelbaar beroepsonderwijs*/MBO (intermediate vocational education) program from the following selected categories:	
a. received upon completion of a 1-year program, a total of 11 years of education (e.g., *middelbaar huishoud- en nijverheids-onderwijs*/MHNO [intermediate home economics education] certificates for *interim algemene schakelopleiding*/INAS [interim general transitional training for in-service health care and welfare training programs], with a standard length of 1 year, or completion of the *vormingsklas* [general education class], p. 23).	May be placed in grade 12 of secondary school.
b. received upon completion of a 2- to 4-year MBO program, a total of 12 to 14 years of education, as in the following selected categories (pp. 21-24):	May be considered for freshman admission where the secondary program is considered appropriate preparation.

middelbaar landbouwonderwijs/MLO (intermediate agricultural education); *middelbaar economisch en administratief onderwijs*/MEAO (intermediate economic and administrative education); *middelbaar huishoud- en nijverheidsonderwijs*/MHNO (intermediate home economics education) and *middelbaar sociaal-pedagogisch onderwijs*/MSPO (intermediate socio-pedagogical education); *middelbaar middenstandsonderwijs*/MMO (intermediate retailers' education); *middelbaar technisch onderwijs*/MTO (intermediate technical education), including *middelbaar laboratoriumonderwijs*/MLO (intermediate laboratory education).

c. Holds a diploma from *vooropleiding hoger beroepsonderwijs*/VHBO (preparation for higher vocational education, p. 22). — May be considered for freshman admission.

4. Holds a diploma from a *hoger algemeen voortgezet onderwijs*/HAVO (higher general secondary education) program (pp. 15-16). — May be considered for freshman admission.

5. Holds a diploma from a *voorbereidend wetenschappelijk onderwijs*/VWO (university preparatory education) program (pp. 16-19). — May be considered for freshman admission.

B. Higher (Non-University) Vocational (HBO) Credentials

NOTE: Students who have completed some coursework for any of the programs listed below may be considered for undergraduate admission with up to a maximum of 30 semester hours of transfer credit for each year, determined through a course-by-course analysis. When the length of a program is cited, it refers to the standard length of the program when pursued fulltime. The actual period of attendance may vary.

1. Holds a diploma from a *hoger beroepsonderwijs*/HBO (higher vocational education) program

a. of less than 4 years' duration in one of the following selected categories: — May be considered for undergraduate admission with transfer credit to be determined through a course-by-course analysis.

kunstonderwijs (art education, pp. 30-31) category of *hogere beroepsopleiding voor museummedewerkers* (higher vocational training for museum staff); *hoger economisch en administratief onderwijs*/HEAO (pp. 33-34) programs in *bedrijfseconomische*/BE *richting* (business economics), *economisch-juridische*/EJ *richting* (business law), *commercieel economische*/CE *richting* (commercial economics), *hoger rekreatief en toeristisch*

onderwijs (higher recreation and tourism education), *verkeerskunde*/VK (transportation), and experimental programs in *makelaardij*/MA (brokerage) and *communicatie*/CO (communications); *hoger middenstandsonderwijs*/HMO (higher retailers' education, p. 37); *hoger sociaal-pedagogisch onderwijs*/HSPO (higher socio-pedagogical education, pp. 38-40) programs in *scholen voor journalistiek* (schools of journalism), librarians' training, in *bibliotheek- en documentatie-academies* (library and documentation academies), *hogere beroepsopleiding voor boekhandel en uitgeverij* (training for the book trade and publishing), and vocational counselors' training offered in the Academie Mens-Arbeid (Academy for School and Vocational Counseling); *hoger technisch onderwijs*/HTO (higher technical education, pp. 44-45) programs in *hoger laboratorium onderwijs*/HLO (higher laboratory education), *hoger nautisch onderwijs* (higher nautical education) with a major in *scheepsradiocommunicatie* (ships' radiocommunication).	
b. Holds a diploma from a higher vocational education (HBO) program of at least 4 years' duration, including no more than one year of practical training in one of the following selected categories:	May be considered for admission to a one-year fulltime program of study at the upper division undergraduate level to complete the preparation needed for consideration for graduate admission in a similar field.
kunstonderwijs (art education, pp. 30, 31-32) programs of the Nederlandse Film- en Televisieacademie (Netherlands Film and Television Academy), and *theateronderwijs* (theater education)); *hoger landbouwonderwijs*/HLO (higher agricultural education, pp. 32-33); *hoger economisch en administratief onderwijs*/HEAO (higher economic and administrative education, pp. 33-34), with majors in *accountancy*/AC (accounting), *bedrijfs-informatica*/BI (business informatics [computer science]), *economisch-linguistische*/EL *richting* (business language studies), *hoger distributie onderwijs* (marketing), and *hogere opleiding tot vertaler* (translators' training); *hoger gezondheidszorg onderwijs*/HGZO (higher health care education, pp. 34-36) programs including *opleiding dietetiek* (dietitians' training), *opleiding voor fysiotherapie* (physical	

therapists' training), and *opleiding voor logopedie-akoepedie* (speech pathologists' and audiologists' training); *hoger huishoud- en nijverheidsonderwijs*/HHNO (higher home economics education, pp. 36-37); *hoger sociaal-pedagogisch onderwijs*/HSPO (higher socio-pedagogical education, pp. 37-38, 39, 40-41) programs of the *academies voor expressie door woord en gebaar* (academies for dramatic expression), *opleiding tot activiteitenleider* (training for activity leaders), programs of the *sociale academies* (training of social and personnel workers), *opleiding jeugdvormingsleider* (training for youth development leaders), and *hogere beroepsopleiding jeugdwelzijnswerk*/HBO-j (training for youth welfare workers); *hoger technisch onderwijs*/HTO (higher technical education, pp. 41-45) programs of the *hogere technische scholen*/HTS (higher technical schools), *hoger natuurwetenschappelijk onderwijs*/HNWO program of the *hoger laboratorium onderwijs*/HLO category, and *hoger nautisch onderwijs* (higher nautical education) with majors in *vliegtuigoperatie* (aircraft operation), *hydrografie* (hydrography), *scheepswerktuigkunde* (nautical engineering), *navigatie* (navigation), and *operationele technologie* (operational technology).

2. Holds a post-HBO (higher vocational education) certificate, e.g., *post-HTO-cursussen* (post-higher technical school education courses, etc., pp. 45-46).

   May be considered to have completed additional specialized training; undergraduate credit to be determined through a course-by-course analysis.

3. Holds a diploma from one of the following program types or institutions:

   kunstonderwijs (art education, p. 30) programs of the *academies van beeldende kunsten* (academies for the visual arts), and *muziekvak-onderwijs* (professional music education, p. 31); Koninklijke Militaire Academie (Royal Military Academy, pp. 47-48); Koninklijk Instituut voor de Marine (Royal Naval Institute, p. 48); and Nederlands Politie Academie (Netherlands Police Academy, p. 48).

   May be considered for graduate admission. Depending upon the relevance of the first degree major to the program, some undergraduate deficiencies may have to be made up.

4. Holds a diploma from an *academie van bouwkunst* signifying completion of an *onderwijs in de architectuur* (education in architecture program, p. 47).

   May be considered to hold the first professional degree in architecture.

C. Teacher Training

1. Holds one of the following certificates: *akte van bekwaamheid als leidster bij het kleuteronderwijs* or *akte van bekwaamheid als kleuterleidster* (preprimary teaching certificate); *akte van bekwaamheid als hoofdleidster* (preprimary head teacher's [principal's] certificate). (pp. 50-51)	May be considered for freshman admission where the secondary program is considered appropriate preparation.

NOTE: Students who have completed some coursework for any of the programs listed below may be considered for undergraduate admission with up to a maximum of 30 semester hours of transfer credit for each year, determined through a course-by-course analysis. When the length of a program is cited, it refers to the standard length of the program when pursued fulltime. The actual period of attendance may vary.

2. Holds one of the following certificates: *akte van bekwaamheid als onderwijzer* (primary teaching certificate [basic], pp. 56-57); *akte van bekwaamheid als volledig bevoegd onderwijzer* (certificate as a fully qualified primary teacher, pp. 53-56); *akte van bekwaamheid als hoofdonderwijzer* (primary head teacher's [principal's] certificate, p. 57); *lager onderwijs-akte*/LO-*akte* (lower secondary teaching certificate, also referred to as a third- or lowest-level credential, *derdegraadsbevoegdheid*, pp. 60-64); MO-*akte*-A or MO-A (*middelbaar onderwijs-akte* A [intermediate secondary teaching certificate in a single subject], also referred to as a second-level credential, *tweedegraadsbevoegdheid*, pp. 60-64); *akte* L V (lower secondary teaching certificate, *derdegraadsbevoegdheid*, in horticulture, p. 64); *nijverheidsonderwijs-akte*/N-*akte* (lower vocational secondary teaching certificates, *derdegraadsbevoegdheden*, p. 65); diploma from *opleiding tot docent te behoeve van instellingen voor gezondheidszorg* (health care instructor's training program, p. 36).	May be considered for undergraduate admission with transfer credit to be determined through a course-by-course analysis.
3. Holds one of the following certificates or diplomas: diploma from an institution offering the *nieuwe lerarenopleiding*/NLO (new teacher training, leading to third- or lowest, or second-level credentials, *derde-* or *tweedegraadsbevoegdheden*, in two subjects, pp. 59-60); MO-*akte*-B or MO-B (*middelbaar onderwijs-akte*-B [higher secondary teaching certificate in a single subject] also referred to	May be considered for admission to a one-year fulltime program of study at the upper division undergraduate level to complete the preparation needed for consideration for graduate admission in a similar field.

as a first- or highest-level credential, *eerstegraadsbevoegdheid*, pp. 60-64); diploma from a *nieuwe agrarische lerarenopleiding* (new agricultural teacher training, leading to *derde-* or *tweedegraadsbevoegdheden* credential, p. 64); *theateronderwijs* (theater arts education) *docentenopleiding dans, drama, kleinkunst* or *mime* (teacher training for dance, drama, cabaret, or mime, pp. 31-32).

4. Holds one of the following certificates (pp. 64-65):

   diploma from a *lerarenopleiding 'tehatex'* program (teacher training program for drawing, handicrafts, and textiles, also referred to as a first- or highest-level credential, *eerstegraadsbevoegdheid*); diplomas from *muziekvakonderwijs* programs for *muziekonderwijsakte* A-AMV (*algemene muzikale vorming*) (music teaching certificate A-general music education); *muziekonderwijsakte* B-*schoolmuziek* (music teaching certificate B-school music), and *docent ritmiek* (rhythm teacher).

   May be considered for graduate admission. Depending upon the relevance of the first degree major to the graduate program, some undergraduate deficiencies may have to be made up.

D. Nurses' Training

1. Holds a diploma from a hospital-based program as named below (pp. 66-68):

   A-*verpleegkundige* (A-nurses, i.e., general hospital nurses); B-*verpleegkundige* (B-nurses, psychiatric nurses); Z-*verpleegkundige* (Z-nurses, nurses for the mentally handicapped); *ziekenverzorgende* (nurses for nursing homes).

   May be considered for freshman admission where the program is considered appropriate preparation.

2. a. Holds a diploma from a *middelbare beroepsopleiding-verpleegkundige*/MBO-vp (or -v) (intermediate vocational education for nurses') program (pp. 68-69).

   May be considered for freshman admission where the secondary program is considered appropriate preparation.

NOTE: Students who have completed some coursework for any of the programs listed below may be considered for undergraduate admission with up to a maximum of 30 semester hours of transfer credit for each year, determined through a course-by-course analysis. When the length of a program is cited, it refers to the standard length of the program when pursued fulltime. The actual period of attendance may vary.

   b. Holds a diploma from one of the following *hoger gezondheidszorg onderwijs* (higher health care education/HGZO) programs (pp. 69-71):

   hogere beroepsopleiding tot verpleegkundige/ HBO-v ([basic] higher vocational education

   May be considered for undergraduate admission with transfer credit to be determined through a course-by-course analysis.

for nurses); *opleiding tot verpleegkundige in de maatschappelijke gezondheidszorg*/MGZ (training for public health nursing); and *hogere opleiding voor verpleegkundigen*/HOV (higher administrative and management training for nurses).

E. University Credentials (pp. 83-90, 103-104)

NOTE: Students who have completed some coursework for any of the programs listed below may be considered for undergraduate admission with up to a maximum of 30 semester hours of transfer credit for each year, determined through a course-by-course analysis. When the length of a program is cited, it refers to the standard length of the program when pursued fulltime. The actual period of attendance may vary.

1. a. Holds a certificate for passing the preliminary examination (*propaedeutisch examen*, also known as *propaedeutisch examen, eerste gedeelte*/P1 in some technical university programs prior to August 1982) representing a program of studies with a standard length of one year.	May be considered for undergraduate admission with up to 30 semester hours of transfer credit determined through a course-by-course analysis.
b. Holds a certificate for passing the more specialized preliminary examination Part 2 (*propaedeutisch examen, tweede gedeelte*/P2) representing an additional program of studies with a standard length of one year (only in technical university programs prior to August 1982).	May be considered for undergraduate admission with up to 30 semester hours of transfer credit determined through a course-by-course analysis in addition to credit allowed for the preliminary examination P1.
2. Holds a certificate for passing *kandidaatsexamen*	
a. representing completion of a program of studies with a standard length of less than 4 years.	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis.
b. representing completion of a program of studies with a standard length of 4 years.	Although this does not represent completion of a degree program in the Netherlands, the preparation is sufficient to warrant consideration for graduate admission.
3. Holds a *baccalaureus* degree.	May be considered for graduate admission.

4. Holds the degree of *meester in de rechten/mr.**	May be considered for graduate admission.
5. Holds the degree of *ingenieur/ir.*. or *doctorandus/drs.* in a nonmedical field.*	May be considered to have a degree comparable to a U.S. master's degree.†
6. Holds the degree of *doctorandus/drs.* in dentistry, medicine, pharmacy, or veterinary medicine.*	May be considered to have completed the theoretical coursework of a first professional degree program in the field but without practical clinical training; may be considered for graduate admission with no graduate transfer credit.
7. Holds the professional qualification of *apotheker* (pharmacist), *arts* (physician), *dierenarts* (veterinarian), or *tandarts* (dentist).*	May be considered to have a first professional degree in the field; may be considered for graduate admission with no graduate transfer credit.
8. Holds the degree of *doctor/dr.*	May be considered to have a degree comparable to a U.S. Ph.D.

F. International Education Credentials (pp. 103, 106-114)

1. Holds a master's degree.	May be considered for graduate admission with transfer credit determined through a course-by-course analysis.
2. Holds a diploma or certificate.	Placement should be determined on the basis of other academic qualifications. Upon review of the syllabus, transfer credit may be awarded if applicable to the student's program, keeping in mind the highly specialized and applied nature of these credentials.

*The structure of the program leading to these degrees was changed with the entering class of 1982. These new-style programs consist of 4 years of university study and may lack the research component present in the old-style programs. Although a placement recommendation could not be made at the time of publication for students who complete the new-style programs, it is anticipated that they would be eligible for consideration for graduate admission.

†These degrees also incorporate the level of education represented by the U.S. bachelor's degree.

Appendix A

Institutions of Higher Education, 1983

The following institutions of higher education offer programs recognized by the Ministry of Education and Science or the Ministry of Agriculture and Fisheries. Every effort has been made to ensure accuracy in the list. However, changes are constantly occurring in Dutch higher education, particularly in the higher vocational sector. For example, in addition to the new primary teacher education institutes, which as a rule represent mergers of other institutions, the Ministry of Education and Science has been encouraging the consolidation of many other types of higher vocational schools, hoping to reduce their numbers from about 400 to less than 150. These innovations have resulted in changes in institutional names and addresses and the elimination of some institutions. Such changes are expected to continue for some time to come. Due to the name changes and consolidation, there is some redundancy in the list given.

In addition to the address, each institution is identified by educational sector and by the types of programs offered (in parentheses). Descriptions of universities are also furnished. For university programs of study, see Chapter 7; for international education programs, Chapter 8. The following abbreviations have been used: HBO (higher vocational education, in general); HBO-v (nursing); HEAO (business); HHNO (home economics); HGZO (health care); HAO (agriculture); HLO (lab); HMO (retail business); HSPO (socio-pedagogical); HTO (technical); IE (international education), and PABO (*Pedagogische Academie Basisonderwijs*).

Academie 'Artibus,' Plompetorengracht 18, 3512 CD Utrecht. (HBO: fine arts)

Academie 'De Laan,' Morsestraat 1, 2517 RZ, The Hague. (HBO: HHNO and HGZO)

Academie Diedenoort, Boeslaan 21A, 6703 EN Wageningen. (HBO: HHNO)

Academie Industrielle Vormgeving, Elzentlaan 20, 5611 LN Eindhoven. (HBO: HTO)

SOURCES: The information in this appendix comes from the following sources: *Mededelingen*. No. 7789, Netherlands Central Bureau for Statistics (Voorburg, February 1983), pp. 11-12; and George, Lynn. *Vadecum: A Concise Guide to Studying in the Netherlands for Foreign Students*. (Amsterdam: Foreign Student Services, 1979), pp. 13-34; Aitken, D. J., (ed.). *International Handbook of Universities*, (New York: International Universities Association, 1981), pp. 767-778; Panhuyzen, Nico, and van Opdorp, Joke. *Studiemogelijkheden aan Daagscholen voor Hoger Beroepsonderwijs, h.b.o.* (The Hague: Ministry of Education and Science, 1981); unpublished lists furnished by the Dutch Ministry of Education and Science, and direct correspondence with numerous institutions.

Academie Mens-Arbeid (or Academie voor School- en Beroepskeuzewerk), St. Josephstraat 108, Tilburg. (HBO: HSPO)

Academie van Beeldende Kunsten, G. J. de Jonghweg 6, 3015 GG Rotterdam. (HBO: fine arts)

Academie van Beeldende Kunsten, Onderlangs 9, 6812 CE Arnhem. (HBO: fine arts)

Academie van Beeldende Kunsten 'Minerva,' Schoolholm 23, 9711 JE Groningen. (HBO: fine arts)

Academie van Beeldende Kunsten St. Joost, St. Jansstraat 18, 4811 ZM Breda. (HBO: fine arts)

Academie voor Beeldende Vorming, Bekensteinselaan 10, Amerfoort. (HBO: fine arts)

Academie voor Beeldende Vorming, Lutmastraat 191, Amsterdam. (HBO: fine arts)

Academie voor Beeldende Vorming, Prof. Cobbenhagenlaan 205, Tilburg. (HBO: fine arts)

Academie voor Educatieve Arbeid 'De Jelburg,' Regentesselaan 5, P.O. Box 249, Baarn. (HBO: HSPO)

Academie voor Educatieve Arbeid 'De Kopse Hof,' Ubbergseveldweg 201, 6522 JP Nijmegen. (HBO: HSPO)

Academie voor Eurythmie, Riouwstraat 1, 2585 GP The Hague. (HBO: HSPO)

Academie voor Expressie door Woord en Gebaar, Op de Koornmarkt 1, Kampen. (HBO: HSPO)

Academie voor Expressie door Woord en Gebaar, Janskerehof 18, Postbus 407, 3512 BM Utrecht. (HBO: HSPO)

Academie voor Expressie en Communicatie, Groot Schavernek 9, 8911 BW Leeuwarden. (HBO: HSPO)

Academie voor Fysiotherapie, Prof. Casmirstraat 1, 1068 KC Amsterdam. (HBO: HGZO)

Academie voor Fysiotherapie, De Weverziekenhuis, Henri Dunantstraat 5, 6419 PC Heerlen. (HBO: HGZO)

Academie voor Fysiotherapie/Instituut voor Hoger Beroepsonderwijs, Postbus 347, Eindhoven. (HBO: HGZO)

Academie voor Fysiotherapie 'Jan van Essen,' Keizersgracht 256, 1016 EC Amsterdam. (HBO: HGZO)

Academie voor Fysiotherapie 'West-Brabant,' Langendijk 55, 4819 ET Breda. (HBO: HGZO)

Academie voor Fysiotherapie, G. J. de Jonghweg 36, 3015 GG Rotterdam. (HBO: HGZO)

Academie voor Gezondheidszorg, Rieteweg 10, 8041 AK Zwolle. (HBO: HGZO—HBO-v)

Academie voor Gezondheidszorg "Noord Nederland," Eendrachtskade, Zuid Zijde 12, Postbus 6106, 9702 CW Groningen. (HBO: HGZO—HBO-v)

Academie voor Kleinkunst, Lindengracht 93, 1015 KD Amsterdam. (HBO: fine arts)

Academie voor Kunst en Industrie, Roessinghsbleekweg 155, 7522 AH Enschede. (HBO: fine arts)

Academie voor Lichamelijke Opvoeding, Groenedaal 66, 9723 AL Groningen. (HBO: HGZO)

Academie voor Opleiding in de Gezondheidszorg op Algemene Grondslag, Mozartlaan 161, 7557 DN Hengelo (O). (HBO: HGZO—HBO-v)

Academie voor Paramedische Beroepen 'Leffelaar,' De Lairesstraat 150/160, 1075 HM Amsterdam. (HBO: HGZO)

Academie voor Sociale Beroepen 'Centraal Instituut voor Christelijke Sociale Arbeid'/CICSA, Kuiperstraat 151, 1073 ER Amsterdam. (HBO: HSPO and HGZO)

Academie voor Sociale en Culturele Arbeid, Oosterhamriklaan 65, Postbus 3008, 9714 JW Groningen. (HBO: HSPO)

Academie voor Sociale en Culturele Arbeid, Verlengde Hereweg 174, 9722 AM Groningen. (HBO: HSPO and HGZO)

Academisch Ziekenhuis, Rijnsburgerweg 124, 2333 AG Leiden. (HBO: HGZO—physical therapy & speech pathology-audiology)

Agogische Academie Friesland, Haniasteeg 7, Postbus 1080, 8911 BX Leeuwarden. (HBO: HSPO, with approved experimental *doctoraal* program leading to the *doctorandus* in social sciences).

Agricultural University. *See* Landbouwhogeschool

Amersfoortse Laboratoriumschool, Uraniumweg 13, 3812 RJ Amersfoort. (HBO: HLO)

Analystenschool Noord-Limburg, Hogeweg 15a, 5914 BA Venlo. (HBO: HLO)

Analystenschool Amsterdam/ASA, Honthorststraat 16, Postbus 9023, 1066 AA Amsterdam. (HBO: HLO)

Analystenschool (Part of Scholengemeenschap voor MLO en HLO), Bedumerweg 129, Postbus 3014, 9701 DA Groningen. (HBO: HLO)

Arnhemse Opleiding voor Fysiotherapie, Ds. Bechtlaan 1, 6823 CA Arnhem. (HBO: HGZO)

Arnhemse Toneelschool, Parkstraat 27, Arnhem. (HBO: fine arts)

Ateliers '63, Zijlsingel 6, 2013 DN Haarlem. (HBO: fine arts)

Bakhuis Roozeboom Instituut, Laurens Baecklaan 25, Postbus 105, 1940 AC Beverwijk. (HBO: HLO)

Barneveld College/BC. *See* Opleidingscentrum voor de Dierveredeling Praktijkschool 'Barneveld.' (IE)

Bibliotheek en Documentatieacademie, Zandstraat 179, Postbus 333, 7400 AH Deventer. (HBO: HSPO)

Bibliotheek en Documentatieacademie, Veldpaatstraat 1, Postbus 2501, 9743 XJ Groningen. (HBO: HSPO)

Bibliotheek en Documentatieacademie, Leyenbroekerweg 113a, Postbus 361, 6132 CD Sittard. (HBO: HSPO)

Bibliotheek en Documentatieacademie, Robert Fruinstraat 34, 5046 DS Tilburg. (HBO: HSPO)

Bijzondere Hogere Landbouwschool, Antillenweg 3, 8931 BV Leeuwarden. (HBO: HAO)

Bouwcentrum/BIE. *See* Institute for Housing Studies

Brabants Conservatorium, Kempenbaan 27, 5022 KC Tilburg. (HBO: fine arts)

Catholic Theological Higher School of Amsterdam. *See* Katholieke Theologische Hogeschool te Amsterdam.

Catholic Theological Higher School of Utrecht. *See* Katholieke Theologische Hogeschool te Utrecht.

Catholic University, Nijmegen. *See* Katholieke Universiteit Nijmegen

Catholic University, Tilburg. *See* Katholieke Hogeschool Tilburg

Central Instituut voor Christelijke Sociale Arbeid/CISCA. *See* Academie voor Sociale Beroepen

Christelijke Academie voor Beeldend Kunstonderwijs en voor Expressie door Woord en Gebaar, Oudestraat 216, 8261 CA Kampen. (HbO: fine arts and HSPO)

Christelijke Academie voor Jeugdwelzijswerk Fiswerd, Fred. Ruyschstraat 12, 8921 VT Leeuwarden. (HBO: HSPO)

Christelijke Hogere Landbouwschool van de Christelijke Boeren en Tuindersbond, De Drieslag 1, 8251 JZ Dronten. (HBO: HAO and teacher educ.)

Christelijke Hogere Landbouwschool, Ede. (HBO: HAO and teacher educ.)

Christelijke Huishoudschool 'Dabar,' Zwartewaterallee 12, 8031 DX Zwolle. (HBO: HSPO)

Christlijke Lerarenopleiding Zwolle, Postbus 1363, Zwolle. (HBO: teacher educ.)

Christelijke Scholengemeenschap 'De Ruyterstraat,' De Ruyterstraat 36, 2518 AS The Hague. (HBO: HSPO)

Christelijke Scholengemeenschap 'Prinses Juliana,' Hoendiepskade 23, 9718 BG Groningen. (HBO: HHNO and HGZO)

Christelijke Scholengemeenschap 'Prinses Marijke,' Fred. Ruyschstraat 12, 8921 VT Leeuwarden. (HBO: HSPO)

Christelijke Sociale Academie 'De Ijsselpoort,' Buiten Nieuwstraat 85, 8261 AS Kampen. (HBO: HSPO)

Conservatorium, Bachstraat 5, 1015 CS Amsterdam. (HBO: fine arts)

Conservatorium, Weverstraat 16, 6811 EI Arnhem. (HBO: fine arts)

Conservatorium, Boddenkampsingel 40, 7514 AR Enschede. (HBO: fine arts)

Conservatorium, St. Jansstraat 7-9, 9712 JM Groningen. (HBO: fine arts)

Conservatorium, Korte Beestenmarkt 7, 2512 SP The Hague. (HBO: fine arts)

Conservatorium, Bonnefantenstraat 15, 6211 KL Maastricht. (HBO: fine arts)

Conservatorium, Pieter de Hoochweg 122, 3024 BJ Rotterdam. (HBO: fine arts)

Conservatorium, Kempenbaan 27, 5022 KC Tilburg. (HBO: fine arts)

Conservatorium, Mariaplaats 28, 3511 LP Utrecht. (HBO: fine arts)

Conservatorium, Bloemendalstraat 14, 8011 PJ Zwolle. (HBO: fine arts)

Conservatorium, Dansacademie, Voorschoterlaan 73, 3062 KJ Rotterdam. (HBO: fine arts)

Conservatorium voor Muziek en Toneelacademie, Bonnefantenstraat 15, 6211 KL Maastricht. (HBO: fine arts)

Conservatorium voor Muziek en Toneelacademie, Lenculenstraat 33, Maastricht. (HBO: fine arts)

Dansacademie 'Verlengde,' Lijnbaansgracht 232, 1017 PH Amsterdam. (HBO: fine arts)

Delft University of Technology. *See* Technische Hogeschool Delft

Deventer Academie voor Fysiotherapie, Fesevurstraat 7, 7415 CM Deventer. (HBO: HGZO)

Dr. Gerrit Th. Rietveld Academie, Fred. Roeskestraat 96 (also, Lutmastraat 70, 1074 TV), 1076 ED Amsterdam. (HBO: HTO)

Dr. Ir. W. L. Ghijsen Instituut, Nieuwe Gracht 65, 3512 LG Utrecht. (HBO: HLO)

Dr. Struycken Instituut, Concordialaan 167, Postbus 280, 4870 AG Etten-Leur. (HBO: HLO)

Eindhoven University of Technology. *See* Technische Hogeschool Eindhoven

Erasmus Universiteit Rotterdam (Erasmus University, Rotterdam), Burgemeester Oudlaan 50, Postbus 1738, 3000 DR Rotterdam. Formed 1973 by incorporation of the Medical Faculty of Rotterdam (previously clinic school founded in 1828) and the Netherlands School of Economics (begun as Netherlands School of Commerce in 1913). Enrollment (1982-83): 10,668. Libraries: Central library with 400,000 volumes, medical library 85,000 volumes, and Rotterdamsch Leeskabinet, with nearly 170,000 volumes. Extensive audio-visual center.

Faculties: Economics, Law, Medicine, Philosophy. Also Sub-Faculties of Social-Cultural Sciences, and Social History.

Centers and institutes: Centers for Business Research and for Planning and Development. Economic Research Institute, Economic-Geography Institute, Institute of Econometrics, and Interuniversity Institute of Management (also known as the School of Management, a joint venture with Delft University of Technology; the Free University, Amsterdam; and the University of Leiden; Erasmus University, Rotterdam; and the Dutch Management Science Foundation).

Europa Instituut, P.O. Box 90734, 2509 LS The Hague. (IE)

Frederik Muller Academie, Keizersgracht 225 & 228, 1016 DV Amsterdam. (HBO: HSPO)

Free University, Amsterdam. *See* Vrije Universiteit, Amsterdam

Friesche Academie voor Fysiotherapie, Boerhaavestraat 30, 8921 TL Leeuwarden. (HBO: HGZO)

Gemeentelijke Hogere Technische School 's-Gravenhage, Wegastraat 60, 2516 AP The Hague. (HBO: HTO)

Gemeentelijke Hogere Zeevaartschool, Pieter de Hooghweg 129, 3029 BG Rotterdam. (HBO: nautical)

Gemeentelijke Hogere Zeevaartschool 'Willem Barentsz,' Delfkwal 8, Terschelling. (HBO: nautical)

Gemeentelijke Hogere Zeevaartschool, Jutfaseweg 5, 3522 HA Utrecht. (HBO: nautical)

Gereformeerde Sociale Academie, Groote Baan 43, 8011 AX Zwolle. (HBO: HSPO and HGZO—HBO-v)

Gereformeerde Sociale Academie 'De Vijverberg,' Pudbergiaan 3, 6711 PD Ede. (HBO: HSPO)

Gezondheidszorg Academie, Overhovenerstraat 31, 6131 BX Sittard. (HBO: HGZO—HBO-v)

Graphic Media Development Centre/GMDC, P.O. Box 20014, 2500 EA The Hague. (IE)

Haagse Academie voor Internationaal Recht/HAIL (Hague Academy of International Law), Peace Palace, Carnegieplein 2, 2517 KJ The Hague. (IE)

Haagse Academie voor Lichamelijke Opvoeding, Kokosnootstraat 84/Duvenvoordelweg 14, 2555 TG The Hague. (HBO: HGZO)

Haagse Analyticnschool, Tesselsestraat 57-63, 2583 JH The Hague. (HBO: HLO)

Haagse Sociale Academie, Saffierhorst 105, 2592 GK The Hague. (HBO: HSPO and HGZO)

Haarlemse Opleiding voor Fysiotherapie, Koepellaan 8, 2061 CV Bloemendaal. (HBO: HGZO)

Hague Academy of International Law. *See* Haagse Academie voor Internationaal Recht

Hannie Schaft Academie, Beatrixlaan 17, 9752 LN Haren (Gr.). (HBO: HSPO)

HBO-v Zuidwest-Nederland, Rommerswalestraat 1, 4461 ET Goes. (HBO: HGZO—HBO-v)

Het Nederlands Instituut voor Katholieke Kerkmuziek, Plompetorengracht 3, 3512 CA Utrecht. (HBO: fine arts)

Higher School for Theology and the Ministry of Heerlen. *See* Hogeschool voor Theologie en Pastoraat te Heerlen

Hogere Bouwbouw en Cultuurtechnische School, Huize Larenstein, 6882 AA Velp. (HBO: HAO and teacher educ.)

Hogere en Middelbare Laboratoriumschool, Corellistraat 10, 5344 AG Oss. (HBO: HLO)

Hogere Hotelschool, Brusselselaan 2, 2587 AH The Hague. (HBO: HMO)

Hogere Hotelschool. *See* Katholieke Hogere Hotelschool

Hogere Landbouwschool van het Koninklijk Nederlands Landbouw Comité, Groenezoom 600 (Noordendijk), 3315 LA Dordrecht. (HBO: HAO)

Hogere School voor Gezondheidszorg, Larikslaan 10, 3833 AM Leusden. (HBO: HGZO—HBO-v)

Hogere Technische School, Bergerweg 200, 1817 MN Alkmaar. (HBO: HTO)

Hogere Technische School, Terheideweg 10, 1062 HL Amsterdam. (HBO: technical/HTO)

Hogere Technische School, Lootaan 46, 7315 AD Apeldoorn. (HBO: HTO)

Hogere Technische School, Ruitenberghlaan 26, 6826 CC Arnhem. (HBO: HTO)

Hogere Technische School (Part of IHBO-West Brabant), Lovenedijkstraat 61, 4818 AJ Breda. (HBO: HTO and other programs)

Hogere Technische School, Oranjelaan 26L, 3312 GN Dordrecht. (HBO: HTO)

Hogere Technische School (Part of IHBO-Eindhoven), Frederiklaan 60A, Postbus 347, 5600 AH Eindhoven. (HBO: HTO and other programs)

Hogere Technische School, Boulevaard 1945, 7512 EC Enschede. (HBO: HTO)

Hogere Technische School, De Ruyterplein 3, 7511 JX Enschede. (HBO: HTO)

Hogere Technische School, Veldzigtlaan 1, 2015 CD Haarlem. (HBO: HTO)

Hogere Technische School, Prinsessegracht 4, 2514 AN The Hague. (HBO: HTO)

Hogere Technische School, Dr. Jurgensstraat 40, 6417 CK Heerlen. (HBO: HTO)

Hogere Technische School, Sloetsweg 155, 7556 HM Hengelo (O). (HBO: HTO)

Hogere Technische School, K. Koopmansplein 2, 5212 NH's-Hertogenbosch. (HBO: HTO)

Hogere Technische School, Kolfschotenweg 25, 1213 RS Hilversum. (HBO: HTO)

Hogere Technische School, Vondelstraat 9, 8913 HP Leeuwarden. (HBO: HTO)

Hogere Technische School, Lange Kleiweg 4, 2288 GK Rijswijk. (HBO: HTO)

Hogere Technische School, G.J. de Jonghweg 6, 3015 GG Rotterdam. (HBO: HTO)

Hogere Technische School, Prof. Cobbenhagenlaan 13, 5037 DA Tilburg. (HBO: HTO)

Hogere Technische School, Oudenoord 70, 3513 EV Utrecht. (HBO: HTO)

Hogere Technische School, Vondellaan 2, 3521 GD Utrecht. (HBO: HTO)

Hogere Technische School, Laag Huissingel 4, 5913 BS Venlo. (HBO: HTO)

Hogere Technische School, Edisonweg 4, 4382 NW Vlissingen. (HBO: HTO)

Hogere Technische School, Assendorperdijk 1, 8012 EG Zwolle. (HBO: HTO)

Hogere Technische School "Amsterdam" HTS A, Europaboulevaard 23, 1079 PC Amsterdam. (HBO: HTO)

Hogere Technische School-Autotechniek, Conderweg 10, 7332 AC Apeldoorn. (HBO: HTO)

Hogere Technische School van de Gemeente Groningen, Petrus Driessenstraat 3, 9714 CA Groningen. (HBO: HTO)

Hogere Technische School Witkruyghlaan, Witkruyghlaan 60, 1061 HC Amsterdam. (HBO: HTO)

Hogere Zeevaartschool, Nieuwe Vaart 5-9, 1018 AA Amsterdam. (HBO: nautical)

Hogere Zeevaartschool, Scheldeweduwe 20, 1062 HE Amsterdam. (HBO: nautical)

Hogere Zeevaartschool, Abel Tasmanplein 4, 9934 GD Delfzijl. (HBO: nautical)

Hogere Zeevaartschool, Ankerplein 27, 1791 AG Den Helder. (HBO: nautical)

Hogere Zeevaartschool, P. de Heugweg 129, 3029 BG Rotterdam. (HBO: nautical)

Hogere Zeevaartschool, Willem Ruysbroechstraat 45, 3024 BK Rotterdam. (HBO: nautical)

Hogere Zeevaartschool, Willem Barentsz, Dellewal 8 Terschelling. (HBO: nautical)

Hogere Zeevaartschool, Jaclaanweg 5, 3522 HA Utrecht. (HBO: nautical)

Hogere Zeevaartschool 'De Ruyterschool,' Boulevard Bankert 60, 4382 AC Vlissingen. (HBO: nautical)

Hogeschool voor Theologie en Pastoraat te Heerlen (Higher School for Theology and the Ministry of Heerlen), Cliostraat 60, 6416 CB Heerlen. (university-level higher school of theology)

Institute for Housing Studies/HIS (formerly Bouwcentrum International Education), 700 Weena, P.O. Box 299, 3000 AG Rotterdam. (III)

Institute of Social Studies/ISS, 27 Molenstraat, P.O. Box 90733, 2509 LS The Hague. Enrollment (1979): 192. Faculty (1979): Approximately 60. Library (1980): 29,000 books; 23,000 smaller publications; 550 periodicals. Inter-library loan service. (III)

Instituut voor Bedrijfskunde. *See* Stichting Nijenrode, Instituut voor Bedrijfskunde

Instituut voor de Opleiding van Fysiotherapeuten, Sportpark 'de Vliert,' 5212 CL 's-Hertogenbosch. (HBO: HGZO)

Instituut voor Hogere Beroepsonderwijs-West Brabant, Lovendijkstraat 61, Postbus 90116, 4800 RA Breda. (HBO: HGZO—HBO-s and other programs)

Instituut voor Hogere Beroepsonderwijs/HBO—Eindhoven, Frederiklaan 60A, Postbus 347, 5600 AH Eindhoven. (HBO: HGZO—HBO-s and other programs)

Instituut voor Lerarenopleiding, Vrije Universiteit, De Boelelaan 1105, 1081 HV Amsterdam. (HBO: teacher educ.)

Instituut voor Opleiding van Leraren D'Witte Leli, Nieuwe Spiegelstraat 17, 1017 KT Amsterdam. (HBO: teacher educ.)

Interfaculteit Bedrijfskunde/IB (Interfaculty of Management Science). Instructional unit of Interuniversitair Instituut Bedrijfskunde.

Internationaal Instituut voor Luchtkaartering en Aardkunde/ITC, 144 Boulevaard 1945, P.O. Box 6, 7500 AA Enschede. (IE)

International Agricultural Centre/IAC, 11 Lawickse Allee, P.O. Box 88, 6700 AB Wageningen. (IE)

International Immunology Training and Research Center, Plesmanlaan 125, Amsterdam. (IE)

International Institute for Aerial Survey and Earth Sciences/ITC. *See* Internationaal Instituut voor Luchtkaartering en Aardkunde

International Institute for Hydraulic and Environmental Engineering/IHE, P.O. Box 90734, 2590 LS The Hague. (IE)

International Institute for Land Reclamation and Improvement, Staringgebouw, Marijkeweg 11, 6700 AA Wageningen. (IE)

International Union of Local Authorities/IULA, 451 Wassenaarseweg, 2018 The Hague. (IE)

International Maritime Transport Academy, Den Helder. (IE)

Interuniversitair Instituut Bedrijfskunde/IIB (Interuniversity Institute of Management Science), Poortweg 6, 2612 PA Delft. (IE)

Ir. van den Broek Instituut (Laboratoriumschool), Bennebroekstraat 11-13, 1058 LJ Amsterdam. (HBO: HLO)

Jan van Eyck-Academie, Academieplein 1, 6211 KM Maastricht. (HBO: fine arts)

Kath. Pedagogische Academie Basisonderwijs/PABO, Loudelsweg 20, 1861 TG Bergen (N.H.). (HBO: teacher educ.)

Katholieke Hogere Hotelschool, Jeruzalemweg 1, 6222 NG Maastricht-Limmel. (HBO: HMO)

Katholieke Hogere School voor Verpleegkundigen, Erasmuslaan 9, 6525 GE Nijmegen. (HBO: HGZO—HBO-v)

Katholieke Hogere School voor Verpleegkundigen, Groesbeeksweg 152, Nijmegen. (HBO: HGZO—HBO-v)

Katholieke Hogeschool Tilburg (Catholic University, Tilburg), Hogeschoollaan 225, 5000 LE Tilburg. Established 1927 by the city of Tilburg as the R. K. Handelshogeschool (Roman Catholic Trade University). In 1938 became Katholieke Economisch Hogeschool (Catholic Economic University). Attained present status and name 1963. Enrollment (1982-83): 5,500. Library: 270,000 volumes.

Faculties: Economics, and Law. Also Sub-Faculties of Econometry, Psychology, and Social and Cultural Sciences.

Centers and institutes: Center for International Studies; Institute for Health Care; Institutes of Economic Research, Fiscal Research, Social Research and Development.

Katholieke Kweekschool voor Vroedvrouwen, Zandweg 180, 6418 PB Heerlen. (HBO: HGZO)

Katholieke Scholengemeenschap Jekerdal, St. Theresiaplein 20, 6213 CG Maastricht. (HBO: HSPO)

Katholieke Sociale Academie, Hengelosestraat 9?, 7514 AK Enschede. (HBO: HSPO)

Katholieke Sociale Academie, Helenastraat 15, 2595 HA The Hague. (HBO: HSPO)

Katholieke Sociale Academie, Gouverneur van Hövellstraat 2, Postbus 69, 6131 BK Sittard. (HBO: HSPO and HGZO—HBO-v)

Katholieke Sociale Academie 'De Dommel,' Jerusalemlaan 1, Postbus 1229, 5625 PP Eindhoven. (HBO: HSPO)

Katholieke Sociale Academie 'Den Elzent,' Le Sage ten Broeklaan 15, Postbus 2318, 5615 CP Eindhoven. (HBO: HSPO)

Katholieke Sociale Academie 'Markendaal,' Beukenlaan 1, Postbus 9004, 4834 Nieuwe Ginneken. (HBO: HSPO and HGZO)

Katholieke Theologische Hogeschool te Amsterdam (Catholic Theological Higher School of Amsterdam), Keizersgracht 105, 1015 CH Amsterdam. (university-level higher school of theology)

Katholieke Theologische Hogeschool te Utrecht (Catholic Theological Higher School of Utrecht), Heidelberglaan 2, 3584 CS Utrecht. (university-level higher school of theology)

Katholieke Universiteit Nijmegen (Catholic University, Nijmegen), Erasmuslaan 4, 6525 GE Nijmegen. Established 1923 on the principles of the Roman Catholic Church by joint decrees of Sacred Congregation of Studies and of the Crown. Enrollment (1982-83): 14,736. Library: Central library with about one million volumes.

Faculties: Arts, Law, Mathematics and Natural Sciences, Medicine (including Dentistry), Social Sciences (including Education), and Theology. Also, the Central Interfaculty (Philosophy), the Interfaculty of Prehistory and Geography.

Centers and institutes: Catholic Documentation and Human Scientific Research Centers; Institutes of Educational Research, Psychology, Religious Studies, Social Medicine, and Sociology, and 75 institutes, clinics and laboratories affiliated with Faculties.

Koninklijk Instituut voor de Marine/KIM, (Royal Naval Institute), Postbus 27, 1780 CA Den Helder. (higher non-university education)

Koninklijk Instituut voor de Tropen (Royal Tropical Institute), Mauritskade 63, 1092 AD Amsterdam. (IE)

Koninklijk Academie van Beeldende Kunsten, Prinsessegracht 4, 2514 AN The Hague. (HBO: fine arts)

Koninklijk Academie van Kunst en Vormgeving, Pettelaarsweg 2, 5216 BP 's- Hertogenbosch. (HBO: fine arts)

Koninklijk Conservatorium, Korte Beestenmarkt 7, 2512 GP The Hague. (HBO: fine arts)

Koninklijk Militaire Academie (Royal Military Academy), Kasteelplein 10, 4811 XC Breda. (higher non-university education)

Koninklijk Nederlands Gasthuis voor Ooglijders, F.C. Donderstraat 65, 3572 JE Utrecht. (HBO: HGZO)

Kweekschool voor Vroedvrouwen, Louesweg 6, 1066 EC Amsterdam. (HBO: HGZO)

Laboratoriumschool Deventer, R.v. Diepholtstraat 21, 7400 AM Deventer. (HBO: HLO)

Laboratoriumschool Rijnland, Leidsedreef 5, 2352 BA Leiderdorp. (HBO: HLO)

Laboratoriumschool Zeeland, Roomerswalestraat 1, Postbus 247, 4460 AE Goes. (HBO: HLO)

Landbouwhogeschool (Agricultural University), Salverdaplein 10, 6700 HB Wageningen. Origin predates 1876 when it was established as a national college, replacing an existing municipal school. Attained present name and status 1918. Enrollment (1982-83): 6295. Central Library: 700,000 volumes. Includes full range of farm resources. IE programs offered.

Departments: Food Technology, Forestry, Horticulture, Landscape Architecture, Town and Rural Planning, Tropical Agriculture and Animal Husbandry.

Lerarenopleidingen Vrije Leergangen/Vrije Universiteit, Joan Muyskenweg 48, Postbus 90048, Amsterdam. (HBO: teacher educ.)

Limburgse Opleiding voor Fysiotherapie en Paramedische Beroepen, Deken Nicolaystraat 11-13, 6411 CL Heerlen. (HBO: HGZO)

Mikojel-Academie Sittard, Holstraat 10-12, Sittard. (HBO: HSPO)

Mollerinstituut, Sportweg 10, Postbus 283, 5037 AC Tilburg. (HBO: teacher educ.)

Muzieklyceum, Wilhelminastraat 49, 2011 VL Haarlem. (HBO: fine arts)

Muzieklyceum, Hoge Naarderweg 8, 1217 AE Hilversum. (HBO: fine arts)

Muziek-Pedagogische Academie, Nassauplein 11, 1815 GM Alkmaar. (HBO: fine arts)

Muziek-Pedagogische Academie, Schrans 44, 8932 NE Leeuwarden. (HBO: fine arts)

National Agricultural College Deventer. *See* Rijks Hogere Landbouwschool

Nationa'e Verkeersacademie/HTS, Stappegoorweg 201, 5022 DD Tilburg. (HBO: HTO)

Nautisch College 'Noorder Haaks,' Ankerpark 27, 1781 AG Den Helder. (HBO: nautical)

Nederlands Genootschap tot Opleiding van Lezaren voor het Beroepsonderwijs, Postbus 826, Eindhoven. (HBO: teacher educ.)

Nederlands Instituut voor Bedrijfskunde. *See* Stichting Nijenrode, Instituut voor Bedrijfskunde

Nederlands Opleidings-Instituut voor het Buitenland/NOIB. *See* Stichting Nijenrode, Instituut voor Bedrijfskunde

Nederlands Wetenschappelijk Instituut voor Hoger Rekreatief en Toeristich Onderwijs/NWIT (Netherlands Institute for Tourism and Leisure Studies), Sibeliuslaan 13, 4837 CA Breda. (HBO: HEAO and IE)

Nederlandse Beiaardschool, Grote Spui 11, Amersfoort. (HBO: fine arts)

Nederlandse Film- en Televisie Academie, Overtoom 301, 1054 HW Amsterdam. (HBO: fine arts)

Nederlandse Politie Academie, (Royal Police Academy) de Kleiberg 15, 7312 SN Apeldoorn. (higher non-university education)

Netherlands Institute for Tourism and Leisure Studies/NWIT. *See* Nederlands Wetenschappelijk Instituut voor Hoger Rekreatief en Toeristich Onderwijs

Netherlands Universities Foundation for International Cooperation/NUFFIC. *See* Stichting der Nederlandse Universiteiten en Hogescholen voor Internationale Samenwerking

Nijenrode, the Netherlands School of Business. *See* Stichting Nijenrode, Instituut voor Bedrijfskunde

Noordelijke Hogere Zeevaartschool, Abel Tasmanplein 4, 9934 GD Delfzijl. (HBO: nautical)

OLAN, Zijpendaalseweg 167, 6814 CJ Arnhem. (HBO: HLO)

Opleiding Ergotherapie, Nicolaas Maesstraat 100, 1071 RG Amsterdam. (HBO: HGZO)

Opleiding Ergotherapie, Gooi Kinderziekenhuis, Crailoer weg 116, 1272 EX Huizen (N.-H.). (HBO: HGZO)

Opleiding Fysiotherapie 'Thim van der Laan,' J.C. Maylaan 6, 3526 GV Utrecht. (HBO: HGZO)

Opleiding Kinderverzorging en Opvoeding, Schonebergerweg 45, 3023 ZG Rotterdam. (HBO: HSPO)

Opleidingscentrum 'Middeloo,' Koningin Wilhelminalaan 1, P.O. Box 653, 3818 HN Amersfoort. (HBO: HSPO)

Opleiding voor Arbeidstherapie/Ergotherapie, Schuureikenweg 60, 6432 HX Hoensbroek ('Limburg). (HBO: HGZO)

Opleiding voor de Akte L V, Linnaeuslaan 2, Aalsmeer. (HBO: teacher educ.)

Opleiding voor de Akte L V, Jan van Galenstraat 1, De Lier. (HBO: teacher educ.)

Opleiding voor de akte L V, Voorstadslaan 309, Nijmegen. (HBO: teacher educ.)

Opleidingscentrum voor de Diervaredeling Praktijkschool 'Barneveld,' P.O. Box 64, 3770 AB Barneveld. (IE)

Opleidingsinstituut voor Fysiotherapie, St. Maartenskliniek, Dr. de Bieuurtstraat 1, 6541 DD Nijmegen. (HBO: HGZO)

P.A. Tiele Academie, Paramaribostraat 21, 2585 GL The Hague. (HBO: HSPO)

Pedagogische Academie, Lauriergracht 41, Amsterdam. (HBO: teacher educ.)

Pedagogische Academie, Jhr. Mr. G. W. Mollerslaan 32, Apeldoorn. (HBO: teacher educ.)

Pedagogische Academie, Burg. Klauckelaan 16, Appingedam. (HBO: teacher educ.)

Pedagogische Academie, Molenplein 1, Den Helder. (HBO: teacher educ.)
Pedagogische Academie, Birdaardestraatweg 125, Dokkum. (HBO: teacher educ.)
Pedagogische Academie, Gerardus Majellastraat 1, Dongen. (HBO: teacher educ.)
Pedagogische Academie, Hoge Ham 25, Dongen. (HBO: teacher educ.)
Pedagogische Academie, Omloop 2, Drachten. (HBO: teacher educ.)
Pedagogische Academie, Wijnstraat 7, Postbus 94, Echt. (HBO: teacher educ.)
Pedagogische Academie, Hemelrijken 106, Postbus 355, Eindhoven. (HBO: teacher educ.)
Pedagogische Academie, Boermarkeweg 21, Emmen. (HBO: teacher educ.)
Pedagogische Academie, Kon. Wilhelminalaan 2, Gorinchem. (HBO: teacher educ.)
Pedagogische Academie, Hereweg 77, Groningen. (HBO: teacher educ.)
Pedagogische Academie, Zandvoortselaan 146, The Hague. (HBO: teacher educ.)
Pedagogische Academie, de Sav. Lohmanstraat 1, Postbus 122, Heerenveen. (HBO: teacher educ.)
Pedagogische Academie, Paul Krugerstraat 49, Hengelo (O). (HBO: teacher educ.)
Pedagogische Academie, Jonkerweg 1, Hilversum. (HBO: teacher educ.)
Pedagogische Academie, Oude Amersfoortsewet 79, Hilversum. (HBO: teacher educ.)
Pedagogische Academie, Achter de Hoven 118a, Leeuwarden. (HBO: teacher educ.)
Pedagogische Academie, Ubbergseveldweg 101, Nijmegen. (HBO: teacher educ.)
Pedagogische Academie, Papenvaartweg 109 I, Postbus 1, Oudenbosc. (HBO: teacher educ.)
Pedagogische Academie, Hennekijnstraat 6, Rotterdam. (HBO: teacher educ.)
Pedagogische Academie, Stationssingel 80, Rotterdam. (HBO: teacher educ.)
Pedagogische Academie, Bloemendaalsestraatweg 189, Santpoort-Zuid. (HBO: teacher educ.)
Pedagogische Academie, Pastoor v. Erpstraat 3, Schijndel. (HBO: teacher educ.)
Pedagogische Academie, Kroostweg 149, Postbus 445, Zeist. (HBO: teacher educ.)
Pedagogische Academie, Ten Oeverstraat 68, Zwolle. (HBO: teacher educ.)
PABO, Nassauplein 10, 1815 GM Alkmaar. (HBO: teacher educ.)
PABO, Van de Veldelaan 920, 1816 PZ Alkmaar. (HBO: teacher educ.)
PABO, Dr. Sillevislaan 10, 7602 GJ Almelo. (HBO: teacher educ.
PABO, Daam Fockemalaan 22, 3818 KG Amersfoort. (HBO: teacher educ.)
PABO, J.P. Sweelinckstraat 4, 3816 PB Amersfoort. (HBO: teacher educ.)
PABO, Keerkring 5, 3813 BC Amersfoort. (HBO: teacher educ.)
PABO, Paladijnenweg 251, Postbus 401, 3813 DH Amersfoort. (HBO: teacher educ.)
PABO, Fred. Roeskestraat 98, 1076 ED Amsterdam. (HBO: teacher educ.)
PABO, Ijsselstraat 48, 1078 CK Amsterdam. (HBO: teacher educ.)
PABO, Jan Tooropstraat 136, 1061 AD Amsterdam. (HBO: teacher educ.)
PABO, Jan van Eijckstraat 47, 1077 LH Amsterdam. (HBO: teacher educ.)
PABO, Plantage Middenlaan 27, 1018 DB Amsterdam. (HBO: teacher educ.)
PABO, Vlaardingenlaan 3, 1059 GL Amsterdam. (HBO: teacher educ.)
PABO, Bethanienstraat 250, 6826 TJ Arnhem. (HBO: teacher educ.)
PABO, Rosendaalsestraat 483, 6824 CL Arnhem. (HBO: teacher educ.)
PABO, Van Verschuerplein 43, 6828 ZS, Arnhem. (HBO: teacher educ.)
PABO, Platolaan 2, 3701 TA Assen. (HBO: teacher educ.)
PABO, Baanstraat 72a, 1942 CK Beverwijk. (HBO: teacher educ.)

PABO, Dr. Jan Ingenhouszplein 2, 4814 EH Breda. (HBO: teacher educ.)
PABO, Markendaalseweg 33, 4811 KA Breda. (HBO: teacher educ.)
PABO, Singel 25, 7411 HW Deventer. (HBO: teacher educ.)
PABO, Bachlaan 11, Postbus 277, 7000 AG Doetinchem. (HBO: teacher educ.)
PABO, Julianaplein 2, 7001 HG Doetinchem. (HBO: teacher educ.)
PABO, Imkerstraat 2, 5623 DC Eindhoven. (HBO: teacher educ.)
PABO, Koenraadlaan 102, 5651 EZ Eindhoven. (HBO: teacher educ.)
PABO, Angelsloerdijk 21, 7822 AA Emmen. (HBO: teacher educ.)
PABO, Hondsrugweg 98, Postbus 247, 7811 AG Emmen. (HBO: teacher educ.)
PABO, Postbus 33, 7800 AA Emmen. (HBO: teacher educ.)
PABO, Ronsseweg 557, 2803 ZL Gouda. (HBO: teacher educ.)
PABO, Hora Siccamasingel 312, 9721 HZ Groningen. (HBO: teacher educ.)
PABO, Verzetsstrijderslaan 2, 9727 CE Groningen. (HBO: teacher educ.)
PABO, Zuiderkruislaan 14, 9742 PL Groningen. (HBO: teacher educ.)
PABO, Leidsevaart 220, 2014 HE Haarlem. (HBO: teacher educ.)
PABO, Diamanthorst 16, 2592 GH The Hague. (HBO: teacher educ.)
PABO, Diamanthorst 183, 2592 GD The Hague. (HBO: teacher educ.)
PABO, Helenastraat 11, 2595 HA The Hague. (HBO: teacher educ.)
PABO, Hortensiastraat 26, 2563 NV The Hague. (HBO: teacher educ.)
PABO, Stokroosstraat 185, 2565 BM The Hague. (HBO: teacher educ.)
PABO, Glipperweg 7, 2104 AG Heemstede. (HBO: teacher educ.)
PABO, Klompstraat 20, 6411 KS Heerlen. (HBO: teacher educ.)
PABO, Schlandelermolenweg 20, 6415 GG Heerlen. (HBO: teacher educ.)
PABO, Bruhezerweg 2, 5703 KG Helmond. (HBO: teacher educ.)
PABO, M.A. de Ruyterstraat 3, 7566 CW Hengelo (O). (HBO: teacher educ.)
PABO, Weth. Schuurmanslaan 12, 5231 NJ 's-Hertogenbosch. (HBO: teacher educ.)
PABO, Julianalaan 97, 8931 AH Leeuwarden. (HBO: teacher educ.)
PABO, Postbus 435, 8901 BE Leeuwarden. (HBO: teacher educ.)
PABO, Postbus 324, 2300 AH Leiden. (HBO: teacher educ.)
PABO, Bemelergrubbe 10, 6226 NK Maastricht. (HBO: teacher educ.)
PABO, Brusselseweg 148, 6217 HB Maastricht. (HBO: teacher educ.)
PABO, Grote Gracht 92, 6211 SZ Maastricht. (HBO: teacher educ.)
PABO, Nova Zemblastraat 2, 7942 HV Meppel. (HBO: teacher educ.)
PABO, v.d. Duyen v. Maasdamstraat 1, 7942 HV Meppel. (HBO: teacher educ.)
PABO, Keetenstraat 2, 4335 TH Middelburg. (HBO: teacher educ.)
PABO, Kruitmolenlaan 60, 4337 KR Middelburg. (HBO: teacher educ.)
PABO, Groenewoudseweg 1, 6524 TM Nijmegen. (HBO: teacher educ.)
PABO, Schlatmaekerstraat 10, 6525 DH Nijmegen. (HBO: teacher educ.)
PABO, Hazenboslaan 101, 2343 SZ Oegstgeest. (HBO: teacher educ.)
PABO, Pagnevaartweg 109, 4731 AC Oudenbosch. (HBO: teacher educ.)
PABO, Burg. Geuljanslaan 16, 6041 NB Roermond. (HBO: teacher educ.)
PABO, Beukelsweg 99, 3022 GG Rotterdam. (HBO: teacher educ.)

PABO, Binnenrotte 85, 3011 HB Rotterdam. (HBO: teacher educ.)

PABO, Elzendaal 27, 3075 LS Rotterdam. (HBO: teacher educ.)

PABO, Hofstedestraat 36, 3022 Rotterdam. (HBO: teacher educ.)

PABO, Lange Hilleweg 235, 3073 BP Rotterdam. (HBO: teacher educ.)

PABO, Beukeboomweg 24, 6132 AC Sittard. (HBO: teacher educ.)

PABO, Hemdijk 47, Postbus 138, 8601 XJ Sneek. (HBO: teacher educ.)

PABO, Gelderingen 52, 8341 PZ Steenwijkerwold. (HBO: teacher educ.)

PABO, Fraterstraat 3, 5041 DL Tilburg. (HBO: teacher educ.)

PABO, Oude Dijk 9, 5038 VM Tilburg. (HBO: teacher educ.)

PABO, St. Oloflaan 21, 5037 EP Tilburg. (HBO: teacher educ.)

PABO, Koningsbergerstraat 9, 3531 AJ Utrecht. (HBO: teacher educ.)

PABO, Springweg 91, 3511 VL Utrecht. (HBO: teacher educ.)

PABO, Van Leiflandlaan 17, 3571 AA Utrecht. (HBO: teacher educ.)

PABO, Vogelsanglaan 1, 3571 ZM Utrecht. (HBO: teacher educ.)

PABO, Deken v. Mierstraat 10, Postbus 205, 5461 JN Veghel. (HBO: teacher educ.)

PABO, Huisterweg 2, Postbus 346, 5912 PL Venlo. (HBO: teacher educ.)

PABO, Willem de Zwijgerlaan 230, 3136 AX Vlaardingen. (HBO: teacher educ.)

PABO, Mr. D. U. Stikkerlaan 4, 9671 BZ Winschoten. (HBO: teacher educ.)

Philips International Institute of Technological Studies/PII, Vestdijk 2d, 5611 CC Eindhoven. (IE)

Philips International Telecommunications Training Centre/PITTC, P.O. Box 32, 1200 JD Hilversum. (IE)

Prof. Kohnstamm Academie van de 'Noordhollandse Scholengemeenschap,' Naaldwijkstraat 45, 159 GH Amsterdam. (HBO: HSPO and HGZO)

R. K. Hogere Landbouw- en Tuinbouwschool en School voor Levensmiddelentechnologie van de K. N. B. T. B., Baden Powellstraat 1, 5212 BW 's-Hertogenbosch. (HBO: HAO and teacher educ.)

R. K. Sociale Academie 'de Aemstelhorn,' De Cuserstraat 83 (Buitenveldert), 1081 CN Amsterdam. (HBO: HSPO and HGZO)

Radio Nederland Training Centre/RNTC, P. O. BOX 222, 1200 JG Hilversum. (IE)

Radio-Holland b.v., Keizersgracht 688, 1017 EM Amsterdam. (HBO: fine arts)

Reinwardt Academie, Van den Brandelerkade 24A, Leiden. (HBO: fine arts)

Research Institute for Management Science. *See below*

Research-Instituut voor Bedrijfswetenschappen/RVB (Research Institute for Management Science), Mijnbouwplein 11, P.O. Box 143, 2600 AC Delft. (IE)

Revalidatie Academie 'Hoensbroeck,' Zandbergsweg 111, Hoensbroek. (HBO: HGZO)

Rijksacademie 'Nieuwe Rollecate,' Tesschenmacherstraat 9, 7415 CR Deventer. (HBO: HHNO)

Rijksacademie voor Beeldende Kunsten, Stadhouderskade 86, 1073 AT Amsterdam. (HBO: fine arts)

Rijks Agrarische Scholengemeenschap, Braille dreef 9, 3562 LA Utrecht. (HBO: HAO)

Rijksarchiefschool, Prins Willem Alexanderhof 28, 2595 BE 's Gravenhage. (higher non-university education)

Rijks Hogere Landbouwschool te Deventer (National Agricultural College Deventer), P.O. Box 7, Brinkgreverweg 69, 7413 AB Deventer. (HBO and IE)

Rijks Hogere Landbouwschool, Prof. van Hallstraat 1, 9726 AG Groningen. (HBO: HAO)

Rijks Hogere School voor Levensmiddelentechnologie, Sneekerstraat 13, 8701 XB Bolsward. (HBO: HAO)

Rijks Hogere School voor Tuin- en Landschapsinrichting, Azalealaan 115, 2771 ZV Boskoop. (HBO: HAO)

Rijks Hogere Tuinbouwschool, Richard Wagnerlaan 22, 3533 GD Utrecht. (HBO: HAO)

Rijksconservatorium, Juliana van Stolberglaan 1, The Hague. (HBO: fine arts)

Rijksinstituut voor Hoger Beroepsonderwijs (National Institute for Higher Vocational Education), Frijzer Karelplein 8, Postbus 964, 6200 AZ Maastricht. (HBO: HEAO)

Rijksluchtvaartschool, Luchthaven Eelde, 9761 TA Eelde. (higher non-university education)

Rijksopleiding voor Verloskundigen, Van Dam Ziekenhuis, Westersingel 112, 3015 LD Rotterdam. (HBO: HGZO)

Rijksuniversiteit Groningen (State University of Groningen), Broerstraat 5, 9712 CP Groningen. Established 1614 in the Province of Groningen as an academy. Joined Université Impériale of the French empire during Napoleonic invasion of 1811. Attained present status and name 1876. Enrollment (1982-83): 16,596. Library: Over one million volumes. Includes two museums, 94 clinics, labs, institutes, and other units.

Faculties: Arts, Economics, Law, Mathematics and Science (including Pharmacy), Medicine (including Dentistry), Social Sciences, and Theology. Also, the Central Interfaculty of Philosophy and the Interfaculties of Econometrics, Geography and Prehistory, and Organization and Management.

Rijksuniversiteit Limburg (State University of Limburg), Postbus 616, 6200 MD Maastricht. Newest and smallest Dutch university. Established 1974 as the Medical Faculty of Maastricht (Medische Faculteit te Maastricht). Achieved present status in 1976. Enrollment (1982-83): 1098.

Faculties: General Studies (including Nursing Health Education and Social Health), Medicine.

Rijksuniversiteit te Leiden (State University of Leiden), Stationsweg 46, 2312 AV Leiden. Oldest Dutch university. Established 1575 by William the Silent, Prince of Orange. Enrollment (1982-83): 17,319. Library: Approximately two million volumes. Includes the Observatory, numerous clinics, institutes and labs. IE program in law.

Faculties: Arts, Law, Mathematics and Sciences (including Pharmacy), Medicine, Philosophy, Social Sciences (including Education), and Theology. Also, the Interfaculty of Geography and Prehistory.

Rijksuniversiteit te Utrecht (State University of Utrecht), Maliesingel 38, 3581 BK Utrecht. Established 1636. Second largest Dutch university; largest state university in terms of enrollment. Enrollment (1982-83): 23,300. Central Library: 700,000 volumes. Includes 120 institutes and clinics.

Faculties: Law, Letters, Mathematics and Natural Sciences, Medicine, Social Sciences (including Education), Theology, and Veterinary Medicine. Also, the Central Interfaculty (Philosophy), the Interfaculty of Geography and Prehistory, and nine sub-faculties.

R. K. Scholengemeenschap 'Mater Dei,' Dr. Kuyperstraat 4, 2514 BB The Hague. (HBO: HSPO)

Rotterdams Conservatorium, Pieter de Hooghweg 122, 3024 BJ Rotterdam. (HBO: fine arts)

Rotterdams Conservatorium, Dansacademie, Voorschoterlaan 73, 3062 KJ Rotterdam. (HBO: fine arts)

Royal Military Academy. *See* Koninklijk Militaire Academie

Royal Naval Institute. *See* Koninklijk Instituut voor de Marine

Royal Police Academy. *See* Nederlandse Politie Academie

Royal Tropical Institute. *See* Koninklijk Instituut voor de Tropen

Scapino Dance Academy. *See* Theaterschool en Scapino Dance Academy

Scholengemeenschap 'de Wachtendonck,' Kasteellaan 141, 6415 HR Heerlen. (HBO: HHNO and HGZO)

School voor Algemene Beroepsopleidingen van Verpleegkundigen, p/a Vrije Universiteit, Uilenstede 108, Postbus 7161, 1007 MC Amsterdam. (HBO: HGZO—HBO-v)

School voor Beroepsonderwijs 'de Schutse,' Vossenlaan 44, 6531 SM Nijmegen. (HBO: HHNO and HGZO)

School voor de Journalistiek, Vloedijk 38, Kampen. (HBO: HSPO)

School voor de Journalistiek, Postbus 283, Tilburg. (HBO: HSPO)

School voor Hoger Beroepsonderwijs 'Stratum,' Jan Smitzlaan 9, 5611 LD Eindhoven. (HBO: HSPO)

School voor Hoger Economisch en Administratief Onderwijs, Doelenstraat 23, Alkmaar. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Raamplein 1, 1016 XK Amsterdam. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Velperweg 39, 6824 BG Arnhem. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Etnastraat 20, 4814 AA Breda. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs (Part of IHBO-Eindhoven), Frederiklaan 60A, Postbus 347, 5600 AH Eindhoven. (HBO: HEAO and other programs)

School voor Hoger Economisch en Administratief Onderwijs, Grobbendonkstraat, Eindhoven. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs (Part of IHBO "de Maere"), Lonnekerbrugstr. 78, Postbus 1075, 7500 BB Enschede. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Henri Dunantlaan 22, 9728 HD Groningen. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Queridolaan 1, Groningen. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Veldzdzigtlaan 1, 2015 CD Haarlem. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Houtrustweg 2, 2566 HA The Hague. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Zilverschoonstraat 50/52, 3053 HZ Rotterdam. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Leyenbroekerweg 105a, 6132 CD Sittard. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Dr. Max Euwestraat 4, Utrecht. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Laag Huissingel 4, 5913 ES Venlo. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Edisonweg 4, 4382 NW Vlissingen. (HBO: HEAO)

School voor Hoger Economisch en Administratief Onderwijs, Diezerstraat 80, 8011 RJ Zwolle. (HBO: HEAO)

School voor Journalistiek, Palmastraat 22, 3572 TC Utrecht. (HBO: HSPO)

School voor Laboratoriumspersoneel, Van Schaikweg 94, 7811 KL Emmen. (HBO: HLO)

School voor Laboratoriumspersoneel, Sloetsweg 155, 7556 HM Hengelo (O). (HBO: HLO)

School voor Laboratoriumspersoneel, Dominicanenwal 2, Sittard. (HBO: HLO)

School voor Laboratoriumspersoneel/IHBO-Eindhoven, Frederiklaan 60A, Postbus 347, 5600 AH Eindhoven. (HBO: HLO and other programs)

School voor Laboratoriumspersoneel, Pomphoekweg 6, 5222 BE 's-Hertogenbosch. (HBO: HLO)

Sociale Academie, Karthuizerplantsoen 2, 1015 LS Amsterdam. (HBO: HSPO)

Sociale Academie 'De Horst,' Horstlaan 2, Postbus 121, 3971 LC Driebergen. (HBO: HSPO)

Sociale Academie 'De Jelburg,' Regentesselaan 5, Postbus 249, 3744 MB Baarn. (HBO: HSPO)

Sociale Academie 'De Nijenburgh,' Ridderstraat 42, 4101 BK Culemborg. (HBO: HSPO)

Sociale Academie 'Den Bosch,' Hinthamerstraat 60, Postbus 1056, 5211 MR 's-Hertogenbosch. (HBO: HSPO)

Sociale Academie 'Gelderland,' Schoolstraat 3, 6828 GT Arnhem. (HBO: HSPO)

Sociale Academie 'Rotterdam,' Nieuwstraat 15, 3011 GM Rotterdam. (HBO: HSPO)

Sociale Academie 'Twente,' Grundellaan 17, 7552 EC Hengelo. (HBO: HSPO)

State Agricultural University. *See* Landbouwhogeschool

State University of Groningen. *See* Rijksuniversiteit Groningen

State University of Leiden. *See* Rijksuniversiteit te Leiden

State University of Limburg. *See* Rijksuniversiteit Limburg

State University of Utrecht. *See* Rijksuniversiteit te Utrecht

Stadsacademie voor Toegepaste Kunsten, Kruisherengang 10A, 6211 NW Maastricht. (HBO: fine arts)

Stedelijk Conservatorium en Dansacademie, Weverstraat 16, 6811 EL Arnhem. (HBO: fine arts)

Stedelijk Conservatorium, St. Jansstraat 7-9, 9712 JM Groningen. (HBO: fine arts)

Stedelijk Conservatorium, Aan de Stadsmuur 88, Zwolle. (HBO: fine arts)

Stedelijke Muziek-Pedagogische Academie, Schrans 44, 8932 NE Leeuwarden. (HBO: fine arts)

Stichting Analysten Opleiding Friesland, Sixmastraat 6, Postbus 801, 8901 BP Leeuwarden. (HBO: HLO)

Stichting der Nederlandse Universiteiten en Hogescholen voor Internationale Samenwerking/ NUFFIC (Netherlands Universities Foundation for International Cooperation), Badhuisweg 251, P.O. Box 90734, 2509 LS The Hague. Coordinating body for Dutch IE programs. Also organizes and offers specific courses.

Stichting Gelderse Leergangen, Graafsweg 274, Postbus 9031, 6532 ZV Nijmegen. (HBO: teacher educ.)

Stichting Internationaal Instituut voor Sociale Studien/ISS. *See* Institute of Social Studies

Stichting Katholieke Lerarenopleiding Sittard, Postbus 558, Sittard. (HBO: teacher educ.)

Stichting Katholieke Opleidingscentrum 'De Kopse Hof,' Ubbergseveldweg 201, Nijmegen. (HBO: HSPO)

Stichting Lerarenopleiding Ubbo Emmius, Vredeman de Vriestraat 24, Postbus 1018, 8911 LE Leeuwarden. (HBO: teacher educ.)

Stichting Lerarenopleiding Zuidwest-Nederland, Postbus 2976, 2601 CZ Delft. (HBO: teacher educ.)

Stichting Logopedische Opleiding, 1e Weteringdwarsstraat 7, Amsterdam. (HBO: HGZO)

Stichting Logopedische Opleiding, Byrdstraat 21, Eindhoven. (HBO: HGZO)

Stichting Logopedische Opleiding, Oosthaven 52, Gouda. (HBO: HGZO)

Stichting Logopedische Opleiding, A-weg 5, Groningen. (HBO: HGZO)

Stichting Logopedische Opleiding, Bosweg 160, Nijmegen. (HBO: HGZO)

Stichting Logopedische Opleiding, Teelingstraat 2, Utrecht. (HBO: HGZO)

Stichting Nijenrode Instituut voor Bedrijfskunde (Nijenrode, The Netherlands School of Business), Straatweg 25, 3621 BG Breukelen. (university-level IE)

Stichting Opleiding Leraren, Archimedeslaan 16, Postbus 14007, 3584 BA Utrecht. (HBO: teacher educ.)

Stichting Theologische Faculteit te Tilburg (Theological Faculty Foundation of Tilburg), Hogeschoollaan 225, 5037 GC Tilburg. (university-level higher school of theology)

STOVA, Duivendaal 2-A, Postbus 256, 6700 AG Wageningen. (HBO: HLO)

Sweelinck Conservatorium, Postbus 7168, Amsterdam. (HBO: fine arts)

Technische Hogeschool Delft (Delft University of Technology), Julianalaan 134, 2628 BL Delft. Origins traced to Royal Academy, established 1824, and "Polytechnische School," established 1864. Achieved present status 1905. Enrollment (1982-83): 10,933. Libraries: Central with 375,000 volumes and departmental libraries. Maintains History of Technology Museum.

Departments: Aeronautical & Aerospace Engineering, Applied Physics, Architecture (including Town Planning), Chemical Engineering and Chemistry, Civil Engineering, Mechanical Engineering, General Science, Geodesy, Industrial Design, Mechanical Engineering, Metallurgy, Mining, and Naval Architecture and Marine Engineering. Also, the Interfaculties for Graduate Studies in Business Administration, and in Civil Engineering.

Center and institute: The Computer Center, the Nuclear Reactor Institute.

Technische Hogeschool Eindhoven (Eindhoven University of Technology), Den Dolech 2, 5612 AZ Eindhoven. Founded as state institution 1956. Enrollment (1982-83): 5065. Library: Central library with 468,000 volumes, departmental libraries.

Departments: Architecture and Building Construction, Chemical Engineering, Electrical Engineering, General Science (including Engineering Mathematics), Industrial Engineering, Mechanical Engineering, Philosophy and Social Sciences, Physics.

Center and institute: Computer Center, Institute for Perception Research.

Technische Hogeschool Twente (Twente University of Technology), P.O. Box 217, 7500 AE Enschede. Youngest and smallest of technological universities. Founded as state institution 1961. Only Dutch university with true campus in U.S. sense, with residential facilities for students. Enrollment (1982-83): 3582. Library: 100,000 volumes.

Departments: Applied Mathematics, Applied Physics, Chemical Engineering, Electrical Engineering, Industrial Management, Mechanical Engineering, Philosophy and Social Sciences.

Textile Engineering College, Department of IHBO 'de Maere,' P.O. Box 1075, 7500 BB Enschede. (IE)

Theaterschool. Balletacademie Nel Roos, Kerkstraat 109, 1017 GD Amsterdam. (HBO: fine arts)

Theaterschool, Prinsengracht 779, 1017 JZ Amsterdam. (HBO: fine arts)

Theaterschool en Scapino Dance Academy, Keizersgracht 264, 1016 EV Amsterdam. (HBO: fine arts)

Theda Mansholtschool, Beatrixlaan 17, 9752 LN Haren (Gr.). (HBO: HSPO)

Theological Faculty Foundation of Tilburg. *See* Stichting Theologische Faculteit te Tilburg.

Theologische Hogeschool der Christelijke Gereformeerde Kerken in Nederland te Apeldoorn (Theological Higher School of the Christian Dutch Reformed Church of Apeldoorn), Wilhelminepark 4, 7316 BT Apeldoorn. (university-level higher school of theology)

Theologische Hogeschool van de Gereformeerde Kerken in Nederlanden vrijgemaakt te Kampen (Theological Higher School of the Emancipated Dutch Reformed Church of Kampen), Broederweg 15, 8261 GS Kampen. (university-level higher school of theology)

Theologische Hogeschool van de Gereformeerde Kerken in Nederland te Kampen (Theological Higher School of the Dutch Reformed Church of Kampen), Oudestraat 6, 8261 GS Kampen. (university-level higher school of theology)

Training Center for Animal Husbandry Practical School 'Barneveld.' *See* Opleidingscentrum voor de Dierveredeling Praktijkschool 'Barneveld'

Training Institute for Abroad. *See* Stichting Nijenrode, Instituut voor Bedrijfskunde

Twente University of Technology. *See* Technische Hogeschool Twente

Twents Conservatorium, Gronausestraat 710, Enschede. (HBO: fine arts)

Twentse Academie voor Gezondheidszorg, Sportlaan Driene 10, Postbus 391, 7550 AJ Hengelo (O). (HBO: HGZO—HBO-v)

Twentse Academie voor Paramedische Opleidingen, Kortenaarstraat 4, Enschede. (HBO: HGZO)

Twentse Algemene Fysiotherapie Opleiding, Emmastraat 164, 7513 BG Enschede. (HBO: HGZO)

Universiteit van Amsterdam (University of Amsterdam), Maagdenhuis, Spui 21, 1012 WX Amsterdam. University with largest student enrollment. Established 1632 as the Atheneum Illustre; became university 1876. Considered municipal institution until 1961; has enjoyed independent status since then. Enrollment (1982-83) : 24,556. Library: Central library (largest in country) with two and a half million volumes, unit libraries. Five museums and botanical garden associated with university.

Faculties: Arts, Economics, Law, Mathematics and Science (including Pharmacy), Medicine (including Dentistry), Social Sciences (including Education and Political Science), and Theology. Also, the Combined Faculty of Philosophy; the Interfaculties of Actuarial Sciences and Econometrics, and of Geography and Prehistory.

Centers and institutes: Mathematics Center, the Economics Research and Applied Psychology Research Institutes, and the Institutes of Atomic and Molecular Physics, of Educational Research, and of Nuclear Physics.

Utrechts Conservatorium, Mariaplaats 28, 3511 LP Utrecht. (HBO: fine arts)

Utrechtse Paramedische Academie, Fernandezlaan 2, 3526 GW Utrecht. (HBO: HGZO)

Van 't Hoff Instituut, Bergsingel 135, 3037 GC Rotterdam. (HBO: HLO)

Van Leeuwenhoekinstituut, Vulcanusweg 303, 2624 AV Delft. (HBO: HLO)

Verpleegkundige Academie 'Vronestein,' Oosteinde 14, 2271 EH Voorburg (Z.H.). (HBO: HGZO—HBO-v)

Vrije Academie voor Beeldende Kunsten 'Psychopolis,' De Ghienjnstraat 129, 2562 NN The Hague. (HBO: fine arts)

Vrije Pedagogische Academie Basisonderwijs/PABO, Choisyweg 2, 3701 TA Zeist. (HBO: teacher educ.)

Vrije Universiteit, Amsterdam (The Free University, Amsterdam), De Boelelaan 1105, 1081 HV Amsterdam. Established 1880 by the Calvinist Society for Higher Education. Officially recognized by Dutch government 1905. Enrollment (1982-83): 12,455. Library: Central, unit libraries with 425,000 volumes. Includes art museum, and museum covering history of the institution.

Faculties: Arts (including Archaeology), Economics and Social Sciences (including Education and Political Science), Law, Mathematics and Science, Medicine (including Dentistry), and Theology. Also, a Central Interfaculty of Philosophy; Interfaculties of Geography and Prehistory, Actuarial Sciences and Econometrics, and Physical Education.

Zeeuws Opleidingsinstituut voor Fysiotherapie, Edisonweg 4, 4382 NW Vlissingen. (HBO: HGZO)

Zuidelijke Kader- en Docentenopleiding voor Gezondheidszorg, Pastoor Pottersplein 14, Breda. (HBO: HGZO)

Zuidlimburgse Laboratoriumschool Sittard, Montgomerystraat 7, Postbus 1474, 6130 CB Sittard. (HBO: HLO)

Appendix B

Sample Documents

CIJFERLIJST

HOGER ALGEMEEN VOORTGEZET ONDERWIJS
EINDEXAMEN 19...

Afgelegd aan:

te:

door:

geboortedatum:

Betekenis van de cijfers	1 zeer slecht 2 slecht	3 zeer onvoldoende 4 onvoldoende	5 bijna voldoende 6 voldoende	7 ruim voldoende 8 goed	9 zeer goed 10 uitmuntend

EXAMENVAKKEN	cijfers toegekend voor het: schoolonderzoek	cijfers toegekend voor het: schriftelijk examen	EINDCIJFERS in cijfers	EINDCIJFERS in letters
Nederlandse taal en letterkunde				

Het eindexamen heeft omvat:

1. Nederlandse taal en letterkunde
2. .....
3. .....
4. .....
5. .....
6. .....

DIPLOMA

HOGER ALGEMEEN VOORTGEZET ONDERWIJS

D' ...

w ... en de secretaris van het eindexamen hoger algemeen voortgezet onderwijs, aan deze school afgenomen in het jaar 19 , verklaren dat

geboren 19 .. te .....,

aan bovengenoemde school aan gestelig gevolg het eindexamen hoger algemeen voortgezet onderwijs heeft afgelegd. Dit examen is afgenomen, voor zover het betreft dagscholen, volgens het Eindexamenbesluit dagscholen v. w. o.-b. a. v. o.-m. a. v. o. en voor zover het betreft avond- of dag avondscholen, volgens het Eindexamenbesluit avondscholen v. w. o.-b. a. v. o.-m. a. v. o.

Het examen heeft de ... aan ... toegewezen vermelde cijfers opgeleverd.

..... 19 ..

De secretaris van het eindexamen De .....

Handtekening van de gehuwtekende

MODEL

.....

BEST COPY AVAILABLE

CIJFERLIJST

VOORBEREIDEND WETENSCHAPPELIJK ONDERWIJS

EINDEXAMEN 19...

Afgelegd aan: .....

te: .....

door: .....

geboortedatum: .....

Betekenis van de cijfers: 1 zeer slecht 2 slecht 3 zeer onvoldoende 4 onvoldoende 5 bijna voldoende 6 voldoende 7 ruim voldoende 8 goed 9 zeer goed 10 uitmuntend				
EXAMENVAKKEN	cijfers toegekend voor het: schoolonderzoek	schriftelijk examen	EINDCIJFERS in cijfers	in letters
Nederlandse taal en letterkunde				
UITSLAG VAN HET EXAMEN:				

De secretaris van het onderwijs,

De rector,
De conrector. *)

*) Doorhalen wat niet van toepassing is.

Eventuele doorhalingen en/of wijzigingen moeten op formulier vermeld.

Fig. 3a. VWO *Grade List* (*Cijferlijst*)

BEST COPY AVAILABLE

DIPLOMA

VOORBEREIDEND WETENSCHAPPELIJK ONDERWIJS

De van

te en de secretaris van het eindexamen voorbereidend wetenschappelijk onderwijs, aan deze school afgenomen in het jaar 19 , verklaren dat

geboren 19 te ,
aan genoemde school het eindexamen [1]
met gunstig gevolg heeft afgelegd. Dit examen is afgenomen, voor zover het betreft dagscholen, volgens het Eindexamenbesluit dagscholen v.w.o.-h.a.v.o.-m.a.v.o. en voor zover het betreft avond- of dag-avondscholen, volgens het Eindexamenbesluit avondscholen v.w.o.-h.a.v.o.-m.a.v.o.
Het examen heeft de [2] aan onzijde vermelde vakken omvat.

19

De secretaris van het eindexamen: De

Handtekening van de geëxamineerde:

MODEL

[1] ...

3b. VWO Diploma

Het eindexamen heeft omvat: [1]

1. Nederlandse taal en letterkunde
2. ...
3. ...
4. ...
5. ...
6. ...
7. ...

[1] a. alleen door dagscholen met een ongedeeld gymnasium of een ongedeeld atheneum en te vullen: gymnasium of atheneum.
b. alleen door dagscholen met een gedeelde structuur en te vullen: gymnasium A, gymnasium B, atheneum A of atheneum B.
[2] in letters en te vullen door de dagscholen: neen, door de avond- of dag-avondscholen: ten.
[3] bij avond- of dag-avondscholen voor v.w.o. de zevende regel onbruikbaar maken.

MODEL

This Pre-University Education Certificate gives admission to University studies in the Kingdom of the Netherlands.

3c. Reverse of 3b

BEST COPY AVAILABLE

VERENIGING VOOR BEROEPS ONDERWIJS

MIDDELBARE TECHNISCHE SCHOOL

LEYWEG 859 - 's-GRAVENHAGE

RAPPORT

van _____

Afdeling **WEG- EN WATERBOUWKUNDE**

4a. Periodic Grade Report (*Rapport*) for Intermediate Technical Education (MTO) Program

Rapport van: _____

Afdeling: **Weg- en Waterbouwkunde**

Klas _____ Cursus 19 _____ / 19

	1e Rapport	2e Rapport	3e Rapport
Nederlands			
Engels			
Duits			
Maatschappijleer			
Lichamelijke oefening			
Wiskunde			
Natuur- en scheikunde			
Tekenkunde			
Waterbouwkunde			
Toegepaste mechanica			
Landmeten en waterpassen			
Bedrijfseconomie leiden			
Technologie			
Bouwkunde			
Tekenzaal			
Praktijk Weg- en Waterbouwkunde			
Praktijkcursus Landmeten en Grondonderzoek			
Praktijkcursus Materialen en Asfaltonderzoek			
Praktijkcursus Natuur- en Scheikunde			
Verzuimde lesuren	Geoorloofd		
	Ongeoorloofd		

Bevorderd / Niet bevorderd

Handtekening van moeder of verzorger (voor gezien)

1e Rapport _____

2e Rapport _____

3e Rapport _____

Cijfers: 0 = onvoldoend, 1 = zeer gering, 2 = gering, 3 = tamelijk onvoldoend, 4 = onvoldoend, 5 = voldoend, 6 = ruim voldoend, 7 = goed, 8 = zeer goed, 9 = uitmuntend

Wegbouwkunde omvat: Wegen, grondwerken, funderingen, asfaltwegen en verkeerstechniek.
Waterbouwkunde omvat: Waterbouwkundige constructies en algemene waterbouwkunde.
Toegepaste Mechanica omvat: Berekenen en het berekenen van krachten, steun- en buigmomenten.
Technologie omvat: Materiaalkennis, betontechnologie en asfalttechnologie.
Bedrijfseconomie omvat: Weg- en Waterbouwkundig bedrijven, Bedrijfseconomie en Bedrijfsorganisatie.

_____ H. Kamphuis
Directeur

4b. Reverse of 4a

BEST COPY AVAILABLE

VTA

VERENIGING VOOR
BEROEPSONDERWIJS VOOR 'S-GRAVENHAGE E.O.

DIPLOMA

MIDDELBAAR TECHNISCH ONDERWIJS

De examencommissie van de Middelbare Technische School, Leyweg 858 te 's-Gravenhage, belast met het afnemen van het

eindexamen

verricht dat

Naam

te

is het jaar 19 dit eindexamen, afgenomen volgens de voorschriften krachtens artikel 28 van de Wet op het voortgezet onderwijs, met gunstig gevolg heeft afgelegd.

DAG-ONDERWIJS

's-Gravenhage, de

De voorzitter: De examencommissie:

voorzitter

secretaris

VTA VTA VTA VTA VTA VTA VTA VTA

Model

171

BEST COPY AVAILABLE

4c. MTO Diploma

hts wiltzanghlaan amsterdam

Afdelingen: **Bouwkunde, Weg- en Waterbouwkunde, Werktuigbouwkunde**

VERKLARING

DE DIRECTEUR VAN DE HOGERE TECHNISCHE SCHOOL TE AMSTERDAM VERKLAART, DAT

GEBOREN _____ te _____

MET VOLDOENDE RESULTAAT ZIJN/HAAR PRAKTIJKJAAR IN HET BEDRIJFSLEVEN HEEFT DOORGEBRACHT EN VOOR HET EINDEXAMEN IS GESLAAGD.

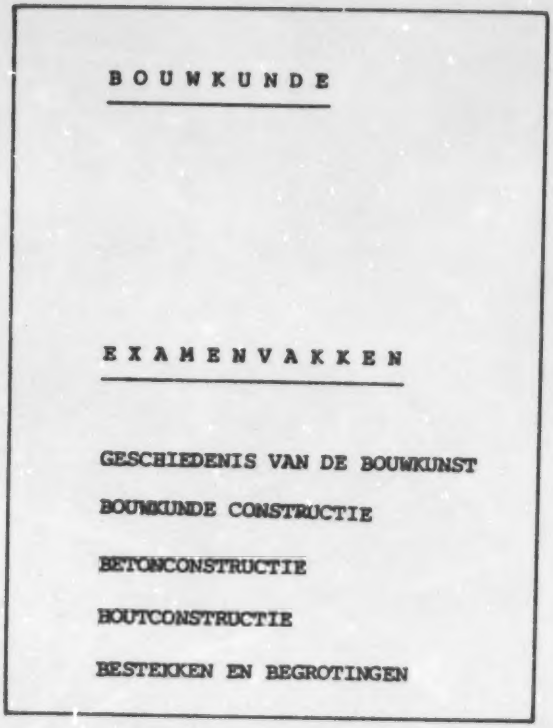
OP GROND DAARVAN IS HEM/HAAR HET GETUIGSCHRIFT, INGEVOLGE ART. 29 VAN DE WET OP HET VOORTGEZET ONDERWIJS, UITGEREIKT.

AMSTERDAM, _____

DE DIRECTEUR

6a. Declaration (*Verklaring*) of Completion of Practical Year in Higher Technical Education (HTO) Program

BEST COPY AVAILABLE



BOUWKUNDE

EXAMENVAKKEN

GESCHIEDENIS VAN DE BOUWKUNST

BOUWKUNDE CONSTRUCTIE

BETONCONSTRUCTIE

HOUTCONSTRUCTIE

BESTEKKEN EN BEGROTINGEN

6c. Reverse of 6b

diploma

HOGER TECHNISCH ONDERWIJS

De examencommissie van de Hogere Technische Avondschool, Wittzanghlaan 60 te Amsterdam, belast met het afnemen van het eindexamen van de afdeling

BOUWKUNDE

verklaart dat

geboren te

in het jaar 19 dit eindexamen, afgenomen volgens de voorschriften krachtens artikel 29 va de Wet op het voortgezet onderwijs, met gunstig gevolg heeft afgelegd, zodat hij/zij op grond van het bepaalde bij en krachtens artikel 2 van de Wet titel "ing." gerechtigd is tot het voeren van de titel ingenieur.

De examenvakken, welke deel hebben uitgemaakt van het eindexamen zijn vermeld op de keerzijde van dit diploma.

AMSTERDAM, de 19

De secretaris-directeur De examencommissie

6b. HTO Diploma

BEST COPY AVAILABLE

CIJFERLIJST

MEDEDELING van de uitslag van het eindexamen van de bijzondere[1]) pedagogische academie, opleiding voor onderwijzer, te Sintpoort-E
ter verkrijging van de akte van bekwaamheid als volledig bevoegd onderwijzer, afgelegd door .....

Vakken, waarover het examen liep	Waardering voor elk vak	
	in cijfers	in letters
a. opvoedkunde, pedagogische en jeugdpsychologie	7	zeven
b. Nederlandse taal en letterkunde	6	zes
c. kennis van het culturele en maatschappelijke leven	5	vijf
d. didactiek van aardrijkskunde	6	zes
e. didactiek van handv.	7	zeven

Uitslag: geslaagd [2])

Sintpoort 19..

..... , directeur (directrice)

voorzitter van gecommitteerden

[1]) doorhalen wat niet van toepassing is.
[2]) in te vullen
geslaagd,
geslaagd na herexamen,
afgewezen, met vrijstelling voor examen voor het vak gekozen onder .....
herexamen voor het vak gekozen onder .....

LB 814 (7468) Uitgave Ministerie van Onderwijs en Wetenschappen

7a. Grade List (*Cijferlijst*) for Final Examination Leading to Primary Teaching Certificate

BEST COPY AVAILABLE

AKTE VAN BEKWAAMHEID

ALS

VOLLEDIG BEVOEGD ONDERWIJZERES

DE directeur en de lezaren van de Pedagogische Akademie „Da Costa"

hebben krachtens artikel 29, derde lid, van de Wet op het voortgezet onderwijs onder toezicht van de door de minister van onderwijs en wetenschappen aangewezen gecommitteerden geëxamineerd

geboren te ,

en haar ten bewijze van het met gunstig gevolg afleggen van het eindexamen de akte van bekwaamheid als volledig bevoegd onderwijzer, bedoeld in artikel 29, vierde lid onder b, van de Wet op het voortgezet onderwijs, uitgereikt.

Santpoort, 19

Namens de gecommitteerden, , voorzitter.

Namens de directeur en de lezaren, , directrice.

De gecommitteerde:

7b. Primary Teaching Certificate

BEST COPY AVAILABLE

Deze akte verleent bevoegdheid tot het geven van onderwijs, als bedoeld in artikel 12*bis* van de Lager-onderwijswet 1920, in de vakken, vermeld in artikel 2 onder

~~a t/m l~~
a t/m j
~~a t/m j en r~~
~~a t/m k en r~~
a t/m k en r

van die wet.

Leeuwarden, 1 juli 19 49

Namens de gecommitteerden,

[signature], voorzitter.

Namens de directeur en de leraren,

[signature], directeur.

AANTEKENING

De ondergetekende, voorzitter van de staatsexamencommissie voor onderwijzer 19.....
te ....., verklaart, dat de hiervoren genoemde onderwijzeres
op ..... 19..... met gunstig gevolg examen heeft afgelegd in het vak, vermeld in artikel 2 onder *j* van de Lager-onderwijswet 1920, ten gevolge waarvan deze akte mede bevoegdheid verleent tot het geven van onderwijs in het vak lichamelijke oefening.

....., 19.....

....., voorzitter.

7c. Reverse of 7b

BEST COPY AVAILABLE

5. Grade List for Preliminary Exam Given after First Year and Statement of Having Passed, Technical University Program of New (Post-1982) Type

TECHNISCHE HOGESCHOOL TWENTE

IN DE AFDELING DER TECHNISCHE NATUURKUNDE HEEFT

GEBOREN TE

MET GOED GEVOLG HET

PROEDEUTISCH

EXAMEN AFGELEGD IN DE STUDIERICHTING DER

TECHNISCHE NATUURKUNDE

ALS BEDOELD IN ARTIKEL 334 VAN HET ACADEMISCH STATUUT

ENSCHEDE,

DE GEEXAMINEERDE

DE EXAMENCOMMISSIE

SPECIMEN

Technische Hogeschool Twente

AFDELING TECHNISCHE NATUURKUNDE

CIJFERLIJST PROPEDEUTISCH EXAMEN

NAAM:

GEBOREN:

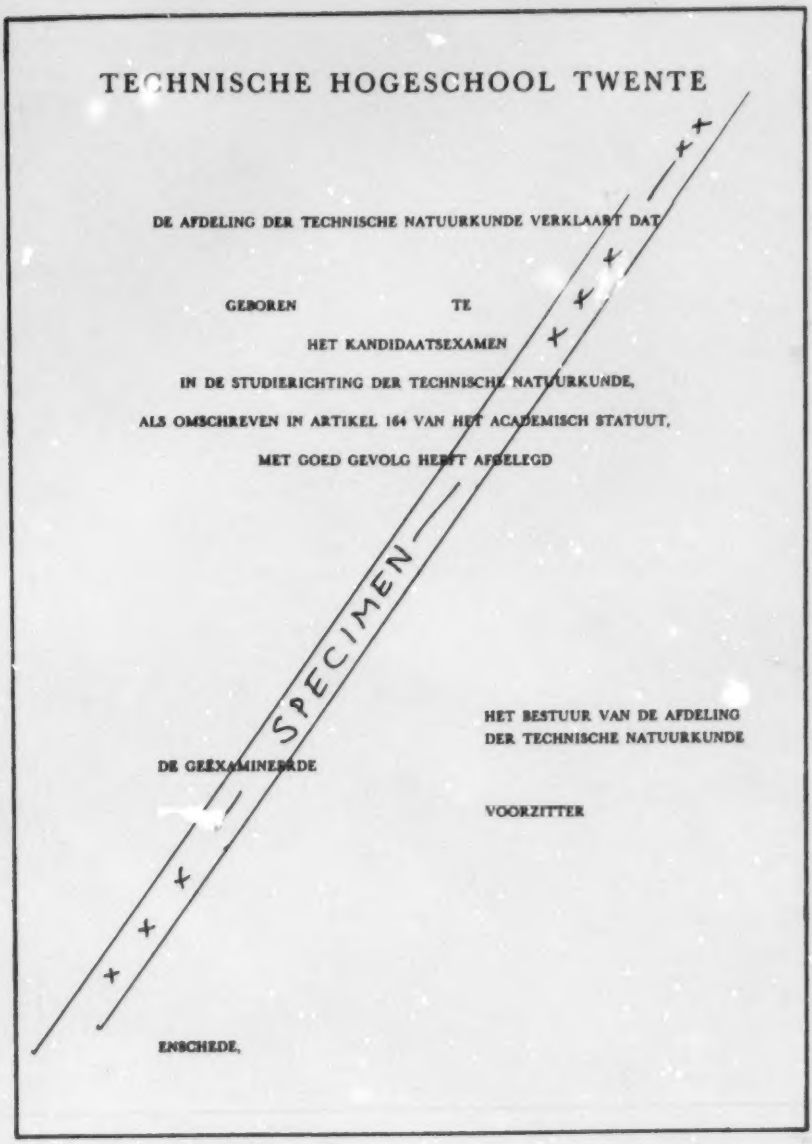
WISKUNDE	CIJFER
ANALYSE I ANALYSE II ANALYSE III LINEAIRE ALGEBRA INLEIDING PROGRAMMEREN	
NATUURKUNDE	CIJFER
WARMTELEER DYNAMICA ELECTRICITEIT EN MAGNETISME STATICA	
PRAKTICA, CONSTRUCTIES I.D. FYS. TECHNIEK	CIJFER
NATUURKUNDIG PRAKTICUM (IE GEDEELTE) NATUURKUNDIG PRAKTICUM (IIE GEDEELTE) CONSTRUCTIES IN DE FYSISCHE TECHNIEK	
MAATSCHAPPIJWETENSCHAPPEN	CIJFER

UITSLAG: ENSCHEDE,

DE EXAMENCOMMISSIE

177

BEST COPY AVAILABLE



TECHNISCHE HOGESCHOOL TWENTE

DE AFDELING DER TECHNISCHE NATUURKUNDE VERKLAART DAT

GEBOREN TE

HET KANDIDAATSEXAMEN

IN DE STUDIERICHTING DER TECHNISCHE NATUURKUNDE,

ALS OMSCHREVEN IN ARTIKEL 164 VAN HET ACADEMISCH STATUUT,

MET GOED GEVOLG HEEFT AFGELEGD

SPECIMEN

HET BESTUUR VAN DE AFDELING
DER TECHNISCHE NATUURKUNDE

DE GEËXAMINEERDE

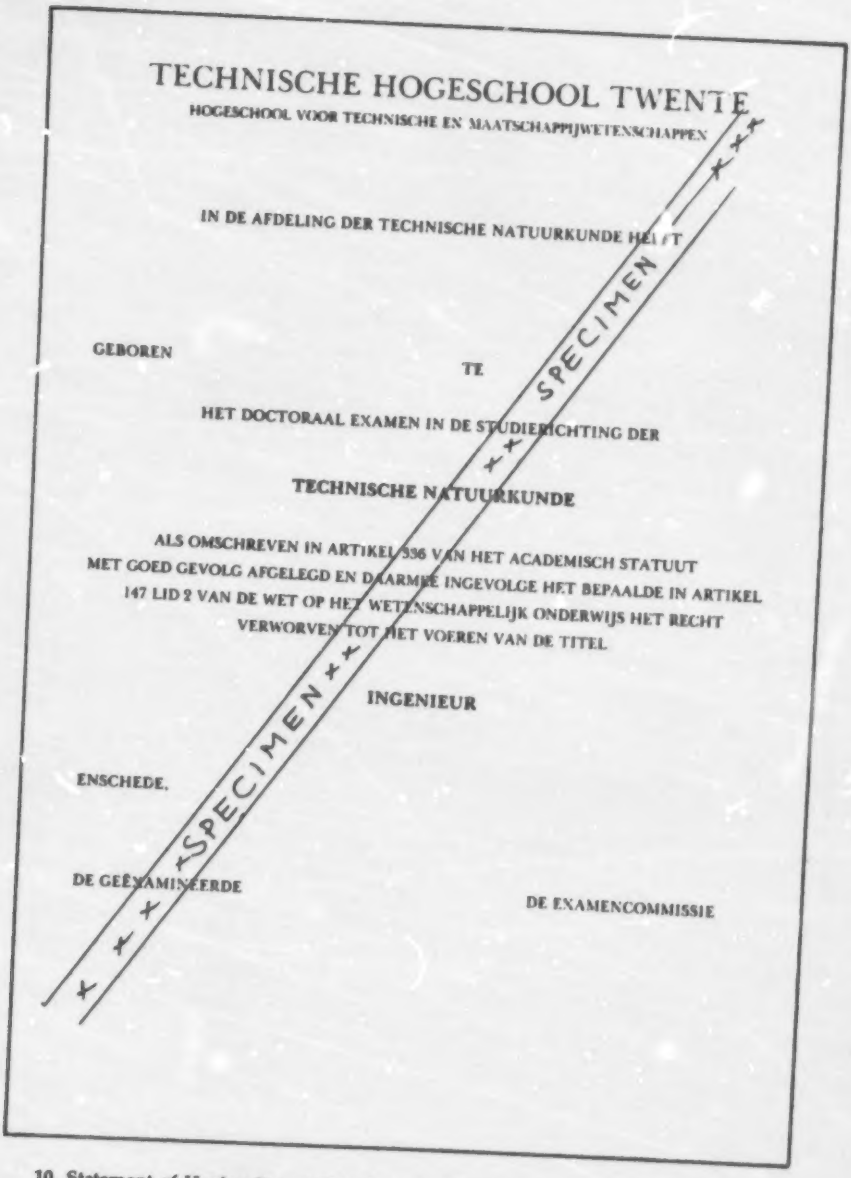
VOORZITTER

ENSCHEDE,

9. Statement of Having Passed Intermediate or Candidate's Examination
(*Kandidaatsexamen*)

178

BEST COPY AVAILABLE



TECHNISCHE HOGESCHOOL TWENTE

HOGESCHOOL VOOR TECHNISCHE EN MAATSCHAPPIJWETENSCHAPPEN

IN DE AFDELING DER TECHNISCHE NATUURKUNDE HEEFT

GEBOREN TE

HET DOCTORAAL EXAMEN IN DE STUDIERICHTING DER

TECHNISCHE NATUURKUNDE

ALS OMSCHREVEN IN ARTIKEL 336 VAN HET ACADEMISCH STATUUT MET GOED GEVOLG AFGELEGD EN DAARMEE INGEVOLGE HET BEPAALDE IN ARTIKEL 147 LID 2 VAN DE WET OP HET WETENSCHAPPELIJK ONDERWIJS HET RECHT VERWORVEN TOT HET VOEREN VAN DE TITEL

INGENIEUR

ENSCHEDE,

DE GEËXAMINEERDE

DE EXAMENCOMMISSIE

SPECIMEN

10. Statement of Having Passed Final Examination (*Doctoraalexamen*) of Technical University Program and Being Authorized to Use Title of Engineer (*Ingenieur*)

BEST COPY AVAILABLE

International Institute for Aerial Survey and Earth Sciences (ITC)

Enschede, The Netherlands

ITC

COURSE RECORD

No.

Name	:
Place and Date of Birth	:
Nationality	:
Registration No.	:
Course followed	: Technologist's course in forest survey
Course Code	: H.7/8.1
Course Duration	: 9 months
Period of Study	: January 5th 1981 - September 25th 1981
Awarded	: Diploma of the Technologist's course in forest survey

Subjects	Grade / Mark
Compulsory lecture subjects:	
Interpretation of forest vegetation	79 seventy-nine
Forest measurements on aerial photographs	72 seventy-two
Planning of forest mapping projects)	..
Elementary photogrammetry II) combined mark	69 sixty-nine
Elementary cartography)	..
Forest hydrology	68 sixty-eight
Photography and aerial photography	74 seventy-four
Elementary photogrammetry I	70 seventy
Basic mathematics	no examination required
Introduction to geomorphology	" " "
Introduction to photo-interpretation in soil survey	" " "
Remote sensing for interpretation purposes	" " "
Practical exercises:	
Forest photo interpretation	80 eighty.
Measurements on maps and aerial photographs	72 seventy-two
Map construction and plotting	78 seventy-eight
Elementary exercises	70 seventy.
Fieldwork project:	
Preparation	77 seventy-seven
Fieldwork	79 seventy-nine
Data processing, map compilation and report	72 seventy-two
Additional subject:	
Elementary descriptive stasistics	60 sixty.

Remarks : Overall performance GOOD

Key:
90-100 Excellent
80- 89 Very Good
70- 79 Good
60- 69 Pass
00- 59 Fail

Ir. J.H. Ramelin

12a. Course Record for International Education (IE) Diploma Program

BEST COPY AVAILABLE

INTERNATIONAL INSTITUTE
FOR
AERIAL SURVEY AND EARTH SCIENCES

DIPLOMA

It is hereby certified that

Born

NATIONALITY:

has this day been duly awarded the

DIPLOMA
of the
TECHNOLOGIST'S COURSE
in
FOREST SURVEY

Date September 25th, 1981
Enschede, The Netherlands

Chairman of the Board of Examiners

Rector

For the Minister of Education and Science

12b. Diploma of International Education (IE) Program

BEST COPY AVAILABLE

Appendix C

Selected Abbreviations and Acronyms

Bao (*basisonderwijs*): basis or foundation education; newly integrated preprimary and primary education

BuO (*buitengewoononderwijs*): special education

HAO (*hoger agrarisch onderwijs*): higher agricultural education

HAVO (*hoger algemeen voortgezet onderwijs*): higher general secondary education (grades 7-11)

HBO (*hoger beroepsonderwijs*): higher vocational education

HEAO (*hoger economisch en administratief onderwijs*): higher economic and administrative (business) education (part of HBO sector)

HGO (*gezondheidszorg onderwijs*): higher health care education

HGO or HGZO (*hoger gezondheidszorg*): higher health care education

HHNO (*hoger huishoud- en nijverheidsonderwijs*): higher home economics education (part of HBO sector)

HLO (*hoger landbouwonderwijs*): higher agricultural education, (or *hoger laboratorium onderwijs*): higher laboratory education (both part of HBO sector)

HMO (*hoger middenstandsonderwijs*): higher retailers' education (part of HBO sector)

HNWO (*hoger natuurwetenschappelijk onderwijs*): higher natural science education (experimental HLO [laboratory] program)

HO (*hoger onderwijs*): higher education

HSG (*hogere scholen voor gezondheidszorg*): higher health care schools

HSPO (*hoger sociaal-pedagogisch onderwijs*): higher socio-pedagogical education (part of HBO sector)

HTO (*hoger technisch onderwijs*): higher technical education (part of HBO sector)

HTS (*hoger technisch school*): higher technical school (part of HBO sector)

IHNO (*individueel huishoud- en nijverheidsonderwijs*): individual home economics education (part of LBO sector)

ILO (*individueel landbouwonderwijs*): individual agricultural education (part of LBO sector)

ing. (*ingenieur*): "engineer," legal title of HTS graduates

ir. (*ingenieur*): "engineer," legal title of those with a first university degree in engineering

ITO (*individueel technisch onderwijs*): individual technical education (part of LBO sector)

KLOS (*kleuterleidsters opleidingsschool*): preprimary teacher training school (part of MBO sector)

KMBO (*kort middelbaar beroepsonderwijs*): short intermediate (secondary) vocational education

KO (*kleuteronderwijs*): preprimary education

LAVO (*lager algemeen voortgezet onderwijs*): lower general secondary education (grades 7-8)

LBO (*lager beroepsonderwijs*): lower vocational education (grades 7-10)

LEAO (*lager economisch en administratief onderwijs*): lower economic and administrative (business) education (part of LBO sector)

LHNO (*lager huishoud- en nijverheidsonderwijs*): lower home economics education (part of LBO sector)

LLO (*lager landbouwonderwijs*): lower agricultural education (part of LBO sector)

LMO (*lager middenstandsonderwijs*): lower retailers' education (part of LBO sector)

LO-*akte* (*lager onderwijs-akte*): "lower education certificate," third- or lowest-level secondary or vocational teaching qualification based on part-time study

LTO (*lager technisch onderwijs*): lower technical education (part of LBO sector)

MAVO (*middelbaar algemeen voortgezet onderwijs*): intermediate general secondary education (grades 7–9 or –10)

MBO (*middelbaar beroepsonderwijs*): intermediate vocational education (grades 11, 11–12, –13, or –14, depending on the program)

MBO-ab (*middelbare beroepsopleiding activiteitenbegeleiding*): intermediate vocational training for activity leaders (part of MBO sector)

MBO-ag (*middelbare beorepsopleiding assisterende in de gezondheidszorg*): intermediate vocational training for health care assistants (part of MBO sector)

MBO-ht (*middelbare beurepsopleiding huishoudtechnische sector*): intermediate vocational training in domestic science (part of MBO sector)

MBO-mk (*middelbare beroepsopleiding mode en kleding*): intermediate vocational training in fashion and clothing (part of MBO sector)

MBO-sa (*middelbare beroepsopleiding sociaal-agogisch*): intermediate vocational training in social education (part of MBO sector)

MBO-sb (*middelbare beroepsopleiding sport en beweging*): intermediate vocational training in sports and movement (part of MBO sector)

MBO-v or -vp (*middelbare beroepsopleiding verpleegkundige*): intermediate vocational training for nurses (part of MBO sector)

MBO-vz (*middelbare beroepsopleiding verzorgende*): intermediate vocational training for care workers, e.g., in a nursery (part of MBO sector)

MEAO (*middelbaar economisch en administratief onderwijs*): intermediate economic and administrative education (part of MBO sector)

MHNO (*middelbaar huishoud- en nijverheidsonderwijs*): intermediate home economics education (part of MBO sector)

MLO (*middlebaar landbouwonderwijs*): intermediate agricultural education, (or *middelbaar laboratorium onderwijs*): intermediate laboratory education (both part of MBO sector)

MMO (*middelbaar middenstandsonderwijs*): intermediate retailers' education (part of MBO sector)

MO-*akte* (*middelbare onderwijs-akte*): "intermediate education certificate," second- and first- or highest-level secondary and vocational teaching qualifications based on part-time training

mr. (*meester*): "master," legal title of those who have a first university degree in law

MSPO (*middelbaar sociaal-pedagogisch onderwijs*): intermediate socio-pedagogical education (part of MBO sector)

MTO (*middelbaar technisch onderwijs*): intermediate technical education (part of MBO sector)

MTS (*middelbare technische school*): intermediate technical school (part of MBO sector)

N-*akte* or NO-*akte* (*nijverheidsonderwijs-akte*): vocational education (teaching) certificate based on part-time training; now nearly obsolete

NLO (*nieuwe lerarenopleiding*): new teacher training, fulltime training for third- or lowest- and second-level secondary or vocational teaching qualifications

OK (*opleidingsschool voor kleuterleidsters*): preprimary teacher training school (part of MBO sector)

PA (*pedagogische academie*): "pedagogical academy," primary teacher training institutes (through 1983)

PABO (*pedagogische academie basisonderwijs*): teacher training institutes for the new combined preprimary/primary (*basisonderwijs*) program

VHBO (*vooropleiding hoger beroepsonderwijs*): preparatory education for higher vocational education (part of MBO sector)

VJV (*vormingswerk jonge volwassenen*): young adults' (life adjustment) education

VO (*voortgezet onderwijs*): secondary education

VOG (*voortgezette opleiding gezondheidzorg*): higher administrative and management training for nurses

VWJ (*vormingswerk werkende jongeren*): young workers' (work and life adjustment) education

VWO (*voorbereidend wetenschappelijk onderwijs*): pre-university or university preparatory education

WO (*wetenschappelijk onderwijs*): university education

Glossary

Accoord/Akkoord. Passed (in grading); literally, correct.

Acht. Eight.

Afdeling. Department.

Afgelegd. Successfully completed or passed.

Akte van Bekwaamheid. Certificate of qualification or proficiency, usually as a teacher.

Algemeen Voortgezet Onderwijs (AVO). General secondary education.

Arts. Physician, doctor.

Atheneum. Modern university preparatory (VWO) secondary school emphasizing instruction in modern languages in conjunction with social sciences (A stream) or mathematics and natural sciences (B stream).

Baccalaureus. First degree awarded by some Dutch universities in economics and engineering based on a minimum of 3½ years of successful study; now rare, will completely disappear by 1987.

Basisonderwijs (BaO). Basis (or foundation) education; new term for a unified system of preprimary and primary education (ages 4-10).

Bedrijfseconomische (BE) *Richting*. HEAO program in "business economic direction" (microeconomics).

Bedrijfsinformatica (BI). HEAO program in "business informatics" (computer science).

Beeldende Kunsten. Visual (or plastic) arts.

Beroepsonderwijs (BO). Vocational education.

Bestuurkunde (BU). HEAO program in business administration.

Bibliothecaris. Librarian.

Bijna Voldoende. Almost satisfactory (numerical grade of 5); usually not passing except under certain circumstances, such as having a sufficiently high grade average.

Brugjaar. Transition year (grade 7), with a common curriculum except in lower vocational (LBO) schools.

Brugklas. Transition class; see *brugjaar*.

Buitengewoon Onderwijs(BuO). Special education for physically and mentally disabled children or those who for other reasons do not have the opportunity to attend regular primary schools.

Cijferlijst. List of grades.

Commercieel Economische (CE) *Richting*. HEAO program in "commercial economic direction" (macroeconomics).

Cursus. Course.

Deelexamen. Literally, partial examination; a limited examination over a portion of a student's studies in one field, the results of which become part of a larger evaluation of the progress being made, such as the *propaedeutisch examen*.

Derdegraadsbevoegdheid. Third- or lowest-level secondary or vocational teaching qualification for grades 7 and 8 in general secondary (LAVO) programs and grades 7-10 in lower vocational (LBO) programs.

Dierenarts. Veterinarian.

Diergeneeskunde. Zoology.

Diploma van de Primaire Praktijkopleiding. Diploma of primary practical training awarded upon successful completion of practical and theoretical examinations concluding apprenticeship

Docent/Dozent. Teacher.

Doctor/dr. Doctorate, highest degree awarded by Dutch universities; conferred on the merits of a dissertation supervised by a university faculty member without further coursework; open only to those who have passed the *doctoraalexamen*.

Doctoraalexamen. An examination or cumulative evaluation terminating the studies for the first and only degree based on coursework at Dutch universities; formerly awarded after at least 5 years of study. Beginning August 1982 awarded after 4 (maximum of 6) years of study, giving legal right to use of the title *doctorandus/drs*. in most fields, *ingenieur/ir.* in engineering, and *meester/mr.* in law, and opening the possibility of earning the degree of *doctor/dr.* by thesis.

Doctorandus/drs. First university degree in most fields; see *doctoraalexamen*.

Drie. Three.

Duits. German.

Economisch en Administratief Onderwijs. Literally, economic and administrative education; vocational education comparable to general business programs in the U.S.

Economisch-Juridische (EJ) *Richting*. HEAO program in business law.

Economish-Linguistische (EL) *Richting*. HEAO program in "economic linguistic direction" (business language).

Een. A, an; one.

Eerste. First.

Eerstegraadsbevoegdheid. First- or highest-level secondary and vocational teaching qualification for all grades of general secondary programs, i.e., through grade 12 of VWO programs, and for higher vocational (HBO) programs.

Eind. End.

En. And.

Engels. English.

Extraneus. Student registered at a Dutch university for the sole purpose of taking examinations.

Faculteit. Literally, faculty; Dutch university units similar in scope and function to the schools or colleges comprising U.S. universities.

Frans. French.

Geneeskunde. Medicine.

Geslaagd. Successful, passed.

Getuigschrift. Diploma or certificate; seen more often on older documents.

Gewoon Lager Onderwijs (GLO). Literally, ordinary lower education; pre-1968, terminology for primary education (grades 1-6).

Goed. Good; third-highest grade possible (8).

Graad. Degree; grade, level.

Gymnasium. Traditional university preparatory (VWO) secondary school emphasizing Latin and Greek in conjunction with history (A stream) or mathematics and natural sciences (B stream).

Handelsdagschool (HDS). Trade day school; a pre-1968 secondary business (or commercial) school (grades 7-10).

Hogeschool. Literally, high school; a university-level institution with less than three faculties or lacking faculties of medicine, mathematics, and natural science.

Hoger Algemeen Voortgezet Onderwijs (HAVO). Higher general secondary education (grades 7-11), preparing for higher vocational education (HBO).

Hoger Beroepsonderwijs (HBO). Higher vocational education, encompassing tertiary technical and other applied tertiary programs, such as nursing, social welfare, teacher training, fine arts, etc. Programs are usually 3 to 5 years in length, including up to a year of practical training, and are offered by any of about 350 specialized institutes.

Hoger Distributie Onderwijs (HDO). HEAO program in "higher distribution education" (marketing).

Hoger Economisch en Administratief Onderwijs (HEAO). Higher economic and administrative (business) education; part of higher vocational education (HBO).

Hoger Gezondheidszorg Onderwijs (HGO or HGZO). Higher health care education; part of higher vocational education (HBO).

Hoger Huishoud- en Nijverheidsonderwijs (HHNO). Higher home economics education; part of higher vocational education (HBO).

Hoger Laboratorium Onderwijs (HLO). Higher laboratory education; part of higher vocational education (HBO).

Hoger Landbouwonderwijs (HLO). Higher agricultural education (also *hoger agrarisch onde wijs* (HAO); part of higher vocational education (HBO).

Hoger Middenstandsonderwijs (HMO). Higher retailers' education; part of higher vocational education (HBO).

Hoger Natuurwetenschappelijk Onderwijs (HNWO). Higher natural science education; an experimental 4-year higher laboratory education (HLO) program.

Hoger Nautisch Onderwijs. Higher nautical education; part of higher technical education (HTO).

Hoger Onderwijs (HO). Higher (tertiary) education.

Hoger Sociaal-Pedagogisch Onderwijs (HSPO) Higher socio-pedagogical education; a form of higher vocational education (HBO) in service fields such as social welfare.

Hoger Technisch Onderwijs (HTO). Higher technical education; part of higher vocational education (HBO)

Hogere Burgerschool (HBS). Literally, higher citizens' school; a pre-1968 type of secondary education (grades 7-11) combining commercial (business) and university preparatory education, replaced by the present *atheneum*.

Hogere Hotelschool (formerly, *hotelvakschool*). Higher hotel school offering higher retailers' education (HMO).

Hogere Opleiding tot Vertaler. HEAO program in "higher training for translators."

Hogere Opleiding voor Sociale Arbeid. Higher training for social work; advanced training available to graduates of the *sociale academies*.

Hogere Scholen voor Gezondheidszorg (HSG). Higher schools for health care education (HBO)

Hogere Technische School (HTS). Higher technical school; higher vocational (HBO) institution offering higher technical education (HTO).

Hoofdakte. Headmaster's (principal's) certificate.

Horecaschool. Hotel-restaurant-cafe school.

Ingenieur. Literally, engineer; used as a legally protected title by graduates of higher technical schools (HTS), abbreviated *ing*.; when abbreviated *ir*., used by graduates who hold a first university degree from the agricultural or technical universities; see *doctoraalexamen*.

Instelling. Institution.

Kandidaatsexamen/candidaatsexamen. In degree programs begun prior to August 1982, an intermediate

examination or cumulative evaluation after 2 or 3 years of study, required in order to continue studies for a degree.

Kleuterleidsters Opleidingsschool (KO). Preprimary teacher training school (grades 11-13 or -14); part of intermediate vocational education (MBO).

Kleuteronderwijs (KO). Preprimary (nursery) education, usually for children ages 4 and 5.

Kleuterschool. Preprimary (nursery) school; kindergarten.

Kort Middelbaar Beroepsonderwijs (KMBO). Short intermediate vocational education (after grade 10); alternative to first phase of an apprenticeship.

Kunstonderwijs. Art education; part of the vocational (HBO) sector.

Kweekschool. Older term for primary teacher training institutes.

Lager Algemeen Voortgezet Onderwijs (LAVO). Lower general secondary education (grades 7-8), usually found in conjunction with lower vocational education (LBO) where it forms the first two years.

Lager Beroepsonderwijs (LBO). Lower vocational education (grades 7-10), leading to apprenticeships or intermediate education.

Lager Economisch en Administratief Onderwijs (LEAO). Lower economic and administrative (general business) education; a form of lower vocational education (LBO, grades 7-10).

Lager Huishoud- en Nijverheidsonderwijs (LHNO). Lower home economics education; a form of lower vocational education (LBO, grades 7-10).

Lager Landbouwonderwijs (LLO). Lower agricultural education; a form of lower vocational education (LBO, grades 7-10).

Lager Middenstandsonderwijs (LMO). Lower retailers' education; a form of lower vocational education (LBO, grades 7-10).

Lager Onderwijs (LO). Primary education (grades 1-6), compulsory for children over age 6 with a common curriculum for all.

Lager Technisch Onderwijs (LTO). Lower technical education; a form of lower vocational education (LBO, grades 7-10).

Lagere Technische School (LTS). Lower technical school (grades 7-10), offering lower technical education (LTO).

Landbouwhogeschool. Agricultural university.

Leerlingwezen. Apprenticeship.

Leider/Leidster. Leader; refers to primary school teachers.

Leraar. Teacher, usually implying secondary level when used alone.

Lichamelijke Oefening. Physical education.

Lyceum. University preparatory (VWO) secondary school combining the curriculums of the *gymnasium* and the *atheneum*.

Maatschappelijk Werk (also *maatschappelijkwerk*). Social work.

Makelaardij (MA). HEAO program in brokerage.

Meer Uitgebreid Lager Onderwijs (MULO). Literally, more extended primary education; a pre-1968 expression for junior secondary programs (grades 7-10 or 11), presently known as intermediate general secondary education (MAVO).

meester/mr. First Dutch university degree in law; see *doctoraalexamen*.

Met. With.

MHNO/MSPO Nieuwe Stijl. New combination of intermediate home economics and socio-pedagogical programs.

Middelbaar Algemeen Voortgezet Onderwijs (MAVO). Intermediate general secondary education (currently grades 7-10; formerly also 7-9), preparing for intermediate vocational education (MBO).

Middelbaar Beroepsonderwijs (MBO). Intermediate vocational education, starting with grade 11 and offering 2- to 4-programs leading to employment or higher vocational education (HBO).

Middelbaar Economisch en Administratief Onderwijs (MEAO). Intermediate economic and administrative (general business) education (grades 11-13); part of intermediate vocational education (MBO).

Middelbaar Huishoud- en Nijverheidsonderwijs (MHNO). Intermediate home economics education (grades 11,11-12 or 13); part of intermediate vocational education (MBO).

Middelbaar Laboratorium Onderwijs (MLO). Intermediate laboratory education (grades 11-13 or 14); part of intermediate technical education (MTO).

Middelbaar Middenstandsonderwijs (MMO). Intermediate retailers' education (grades 11-12 or 14); part of intermediate vocational education (MBO).

Middelbaar Nautisch Onderwijs. Intermediate nautical education (grades 11-12); part of intermediate technical education (MTO).

Middelbaar Sociaal-Pedagogisch Onderwijs (MSPO). Intermediate socio-pedagogical education (grades 11-12 or 13); part of intermediate vocational education (MBO).

Middelbaar Technisch Onderwijs (MTO). Intermediate technical education (grades 11-12, 13 or 14); part of intermediate vocational education (MBO).

Middelbare Beroepsopleiding (MBO). Intermediate vocational training (used in the names of certain vocational programs; see Appendix C, "Selected Abbreviations and Acronyms").

Middelbare Onderwijs Akte or *MO Akte*. Secondary teaching certificate obtained through part-time study. MO *akte*-A (or MO-A) entitles holder to teach through MBO and lower grades of HAVO and VWO programs. MO *akte*-B entitles holder to teach in HBO and upper grades of HAVO and VWO programs.

Middelbare Meisjes School (MMS). Literally, intermediate girls' school; a pre-1968 type of secondary education (grades 7-11) giving access to higher vocational programs, particularly teacher training and social work academies, replaced by the present higher general secondary (HAVO) program.

Middelbare Technische School (MTS). Intermediate technical school (grades 11-14).

Middenschool. Literally, middle school; experimental comprehensive secondary education for the 12- to 15- or 16-year-old age group.

Nautisch Onderwijs. Nautical education (a subcategory of *technisch onderwijs*).

Nederlands. Dutch.

Negen. Nine.

Nieuwe Lerarenopleiding (NLO). New teacher training; fulltime programs lasting 4 and 4½ years preparing teachers for second- (*tweede*-) and third-level teaching qualifications (*derdegraadsbevoegdheiden*).

Onderwijs. Education, instruction.

Onvoldoende. Unsatisfactory; failing grade (4).

Opleiding Toegepaste Huishoudwetenschappen (THW). HHNO program in "applied domestic science training."

Opleiding tot Onderwijsgevende. Teacher training.

Pedagogische Academie (PA). Modern term for primary teacher training institutions.

Praktijkdiploma. Practical diploma, certifying passing of an examination demonstrating practical skill in a particular area, e.g., typing.

Propedeuse. Preliminary (first) year of study in university and many higher vocational programs concluded by a cumulative evaluation or comprehensive examination.

Propedeutisch Examen. Preliminary examination or cumulative evaluation covering the first year's work, mandatory in all university programs begun August 1982 or later.

Rekreatief en Toeristisch Onderwijs. HEAO program in recreation and tourism education.

Rijksdiploma. National diploma.

Ruim Voldoende. Amply satisfactory; above-average grade (7).

Scholen voor Maatschappelijk Werk. Schools for social work; former name for *sociale academies*.

Scholengemeenschap. Multipurpose school, combining, for example, MAVO, HAVO and VWO.

Slecht. Bad; failing grade (2).

Streekschool. Regional school offering theoretical instruction complementing an apprenticeship.

Taal. Language.

Tandarts. Dentist.

Technisch Onderwijs. Technical education.

Tentamen. Examination or cumulative evaluation in a particular field and segment of study, e.g., cumulative results of partial examinations (*deelexamen*) for the mathematics required in the *propaedeutic* year of an engineering program.

Tien. Ten.

Toelatingsexamen. Entrance examination.

Toets. Test or quiz.

Tuinbouwschool. Horticultural school.

Twee. Two.

Tweedegraadsbevoegdheid. Second-level secondary or vocational teaching qualification through lower grades of HAVO and WVO and all grades of MBO programs.

Tweetalig Onderwijs. Bilingual education.

Uitgebreid Lager Onderwijs. (ULO). Equivalent term for *meer uitgebreid lager onderwijs* (MULO).

Uitgebreid Technische School (UTS). Extended technical education, pre-1968 secondary (minimally, grades 9-11).

Uitmuntend. Excellent; highest grade possible (10), rarely awarded.

Vak. Subject.

Vakstudie. Professional studies.

Vervoerskunde (VK). HEAO program in transportation.

Vier. Four.

Vijf. Five.

Voldoende. Satisfactory; lowest fully passing grade (6), alone and as an average.

Voorbereidend Hoger en Middelbaar Onderwijs (VHMO). Preparatory higher and intermediate education; pre-1968 terminology encompassing the *gymnasium*, *hogere burgerschool*, *lyceum*, *middelbare meisjes school*, and *handelsdagschool*.

Voorbereidend Wetenschappelijk Onderwijs (VWO). Pre-university or university preparatory education (grades 7-12), leading to university education (WO).

Vooropleiding. Preparatory course.

Voorbereidend Hoger Vooropleiding Beroepsonderwijs (VHBO). Preparatory (course for) higher vocational education (grades 11-13); part of intermediate vocational education (MBO).

Voortgezet Gewoon Lager Onderwijs. (VGLO). Literally, prolonged ordinary primary education; a pre-1968 expression designating what is currently lower general secondary education (LAVO, grades 7 and 8).

Voortgezet Onderwijs (VO). Secondary education of all types, including until recently higher vocational education, which is now classified as a form of higher education.

Voortgezet Opleiding Gezondheidszorg (VOG). Advanced (administrative and professional) training in the health care field; part of the HBO sector.

Vormingsinstituut. Educational institute offering young workers and adults nonacademic work and life adjustment classes.

Vormingswerk Jonge Volwassenen (VJV). Young adults' (ages 17-2 ' education; non-academic work and life adjustment classes for young adults.

Vormingswerk Werkende Jongeren (VWJ). Young workers' (ages 16-18) education; non-academic life and work adjustment courses for young workers beyond the age of compulsory education.

Waterbouwkunde. Hydraulic engineering.

Weg- en Waterbouwkunde. Civil engineering.

Werktuigkunde. Mechanical engine.ing.

Wet. Law.

Wetenschap. Science or scholarship.

Wetenschappelijk Onderwijs (WO). University education.

Zeer Goed. Very good; second highest grade possible (9).

Zeer Onvoldoende. Very unsatisfactory; failing grade (3).

Zeer Slecht. Very bad; failing grade (1).

Zeevaartschool. Nautical school.

Zes. Six.

Zeven. Seven.

Selected Useful References

Aitken, D.J., ed. *International Handbook of Universities*. 8th ed. Paris: International Association of Universities, 1981.

Brickman, William W. *The Educational System of the Netherlands*. Washington, D.C.: OE/USDHEW, 1976.

Classification of Educational Systems in OECD Member Countries: Netherlands, Sweden, Turkey. Paris: Organization for Economic Cooperation and Development, 1972.

Engineering Education in the Institutes of Technology in the Netherlands. The Hague: Ministry of Education and Science, 1979.

The Establishment of an Open University in the Netherlands. The Hague: Ministry of Education and Science, 1981.

George, Lynn. *Vadecum: A Concise Guide to Studying in the Netherlands for Foreign Students*. Amsterdam: Foreign Student Service, 1979.

Going to School in the Netherlands. The Hague: Ministry of Education and Science, 1974.

The Graduate Handbook. Washington, D.C.: National Association for Foreign Student Affairs, 1981.

Het Koninkrijk der Nederlanden, Feiten en Cijfers: Onderwijs en Wetenschappen. The Hague: Ministry of Education and Science, 1981.

Higher Education and Research in the Netherlands. The Hague: Netherlands Universities Foundation for International Cooperation.
A good, periodic source of new information published quarterly since 1957.

Karstanje, Peter. "Selection for Higher Education in the Netherlands." *European Journal of Education* 16 (1981): 197-208.

Mostert, John. *The Netherlands: A Guide to the Academic Placement of Students from the Netherlands in Educational Institutions in the United States*, World Education Series. Washington, D.C.: American Association of Collegiate Registrars and Admissions Officers, 1961.

Opening Up Higher Education. The Hague: Ministry of Education and Science, 1978.

Panhuyzen, Nico, and van Opdorp, Joke. *Studie Mogelijkheden aan Daagscholen voor Hoger Beroepsonderwijs, h.b.o.* The Hague. Ministry of Education and Science, 1981.

Stassen, Manfred, ed. *Higher Education in the European Community—Student Handbook*. Bonn-Bad Godesberg: Commission of the European Communities, 1981.

The Structure of Education in the Netherlands. The Hague: Ministry of Education and Science, 1981; revised ed., P. van den Broek, 1983.

INDEX

academic credentials. *See* credentials
Academie Meno-Arbeid, 40, 130
academies for dramatic expression, 37, 131
academies for the visual arts, 30, 65, 119, 131
academies van beeldende kunsten, 30, 65, 131
academies van bouwkunst, 47, 131
Academie voor Expressie door Woord en Gebaar, 37, 131
Academie voor Expressie in Communikatie, 37
Academie voor School- en Beroepskeuzewerk, 40
Academy for School and Vocational Counseling, 40, 130
accounting, 33, 46–47, 87, 92, 130; qualification or title, 92–93; administrative accounting consultant, 46
activiteitenleider, 38, 131
activity leaders' training, 38, 131
a-cursus, 22
admission: to secondary, 13–14, 80; to higher vocational, 29; to university, 80–81; to international education, 107. *See also* specific programs
afdeling, 78
afstuderproject, 91
Agogische Academie Friesland, 37–38, 104
agricultural education, 4, 49, 121; LLO, 20, 128; MLO, 21–22, 129; HLO, 32–33, 130; teacher training, 64; university degrees, 85, 88; IE, 107, 110–111, 112 113
Agricultural University/AU, 33, 74–77, 78, 107, 112, 121
akte. *See* certificates
akte I, V, 64
akte Q, 63
akte van bekwaamheid, 122
akte van bekwaamheid als hoofdleraar, 51, 132
akte van bekwaamheid als hoofdonderwijzer, 54, 57, 132
akte van bekwaamheid als (kleuter)leidster/ leidster bij het kleuteronderwijs, 50, 122, 132
akte van bekwaamheid als onderwijzer, 54, 57, 132
akte van bek- aamheid als volledig bevoegd onderwijzer, 54, 132
akte van bekwaamheid van de derde graad, 58, 59, 60, 65, 132
akte van bekwaamheid van de eerste graad, 57–59, 132–133
akte van bekwaamheid van de tweede graad, 58, 59, 60, 65, 132–133
animal husbandry, 110, 111
apotheker, 85, 135
applicatie cursus, 51
apprenticeship, 25
Apprenticeship Act (1919), 9, 25
arbeidstherapie/ergotherapie, 35
architectural education, 47, 131
art education, 30–32, 65; art academies, 30, 131; film and television, 30, 130; museum training, 30, 129; music, 31, 131, 133; theater, 31, 130, 133; teacher training, 65
articulation: secondary, 13–14, 27, 80, 116; university, 81–83, 116–119, 122
arts, 85, 135
Association of Intermediate Technical Schools, 24
A-studie diploma, 114
atheneum, 16–19, 26
A-terpiregkundige, 66–67, 71, 133

baccalaureus, 85, 86, 98, 134
baccalaureus technische wetenschappen, 86
bachelor's degree, 86, 102; IE admission, 107, 110; IE degree, 109
banking, 112
Barneveld College/BC, 110–111
basis education (BaO), 6, 11–12;

teacher training, 49, 50, 51–52
basisonderwijs/BaO. See basis education
BaO. *See* basis education
basisschool. See basis education
BSA, Nijenrode, 103, 114
b-cursus, 22
beoordelingslijst, 120
bestuurlingsorgaan/BE, 98, 126
bewijs van zedelijk, 63
bibliotheken documentatie-academies, 38, 130
bilingual education, 2, 9–10
book trade and publishing training, 40, 130
brugjaar. See transition year
brugklas, 11, 119
buitengewoon onderwijs/BuO, 9, 12
business economics, 33–34, 129
business education, 33, 46, 72, 103, 119, 129, 130; IE, 113, 114; university, 103. *See also* economic and administrative education; Netherlands School of Business
butchers' school, 24
B-verpleegkundige, 66–67, 133

Catholic Institute of Economics, 86
Catholic institutions, 3, 9. *See also* specific institutions
Catholics. *See* religious affiliations
Catholic University, Nijmegen, 74–77, 84
Catholic University, Tilburg, 74–77, 81, 84, 86, 93–94
certificate of attendance, 110–111, 114
certificate of competence, 122
certificates, 120, 122; IE, 109–114
Chartered Institute of Transport, 112
chemical engineering, 98–101
cijferlijst, 120; samples, 155, 161, 164
clinical training, 6, 89
College Level Examination Program (CLEP), 119
college van bestuur, 78
college van deuren, 78
collegium doctum, 33, 81
Columbia University, 113
combined schools, 3, 14, 16
commercial day schools, 26
commercial economics, 33–34, 129
commercieel technische/CT *studie*, 103
compulsory education, 5, 6, 13
Compulsory Education Act (1970), 5
conservatorium. See music
Constitution (Netherlands), 4, 9
continued primary education (VGLO), 9, 26
conversion to semester hours, 126–127
costs, educational, 5–6
credentials, 119–122; university, 85–88, 122; IE, 109, 120, 168. *See also* credentials, teaching
credentials, teaching: preprimary, 50–51, 122; primary, 54–57, 122; secondary and vocational, 57–60, 63–65, 122; sample documents, 161–163
credits, 120, 126–127
cumulative evaluation, 123. *See also* exams
curriculums: preprimary, 10; primary, 10–11; basis, 11–12; secondary, vocational, 19–24; secondary, general, 14, 15–18, 117; university, 91–102

doktorsexamen, 123
Delft University of Technology, 74–77, 103, 109, 112, 114
dentistry, 97, 135; professional title, 85, 86, 88, 135
diepgaandeonderzoekvak, 58, 59, 60, 65, 132
developing countries. *See* international education
developmental studies, 108
diensttijd, 85, 135
dietetiek, 34
dietitians' training, 34–35, 130
diploma basis, 34
diploma hogere beroepsopleiding tot assistentbibliothecaris, 38
Diploma in Electronic Design Engineering, 110
Diploma in Management Studies/ DMS, 112
Diploma of Primary Practical Training, 25
Diploma van de Primaire Praktijkopleiding, 25
diplomas: overview and

nomenclature, 121–122; translations, 120, 122; samples, 154, 156, 158, 160, 168. *See also* specific programs
docent algemene muzikale vorming, 64
docent dans, 31
docent instrumental/vocale opleiding, 64
docent ritmiek, 64
docent te behove van instellingen voor de gezondheidszorg, 36, 64, 132
doctor degree, 78, 79, 80, 84, 86–87, 103, 104, 106, 135
doctoraalexamen, 63, 64, 84–86, 87, 88, 90, 93, 101–102
doctoraal program, 39, 59, 63, 72, 84, 85–86, 88–90, 91, 94, 97, 103, 113–114; compared to U.S. master's degree, 86
doctoraalstudie, 88
doctorandus degree, 39, 58–59, 79, 84, 85, 88, 103, 104, 135
documents, 119–122. *See also* Sample Documents, 153–168
dossier-diploma, 122; sample, 164
dossier-verklaring, 122
dr., 86, 135
drama. *See* theater
drawing/handicrafts/textiles teacher education, 65, 133
dropout rate, secondary, 80
drs., 85, 87, 135
Dutch language, 9–10
Dutch Reformed churches, 9. *See also* theological institutions

education: system, chart of, 7; stratification, 116; streaming, 116 (*see also* articulation); levels of, 117–119
Educational Participation Act (1982), 4, 5
economic and administrative education: LEAO, 20, 128; MEAO, 22, 129; HEAO, 33–34, 129, 130; IE, 111, 113
eerste-fase, 88
eerstegraadsbevoegdheid, 57–59, 132–133
Eindhoven University of Technology, 74–77, 126
eindstudie, 31
elementary education. *See* primary education
engineering, 41, 46, 47, 72; HTS, 41–43; comparison, HTS and university engineers, 41; title, 85, 86, 88; degrees, 41, 85, 88; comparison, old and new university programs, 98–101; international education, 110–112
enrollment figures, 8, 72; restrictions, 80
Erasmus University, Rotterdam, 74–77, 103
Europa Institute, 111
European Common Market, 111
European Convention on the Equivalence of Diplomas Leading to Admission to Universities, 81
examen, 122, 123
examinations, 117, 119, 122–123; secondary: MAVO, 14–15; HAVO, 15–16, 153; VWO, 17, 19, 155; tertiary, 50, 54, 55, 57, 85–88, 122, 123. *See also* specific examinations; levels of education
experimental educational forms, 24–25
extended primary education (ULO or MULO), 9, 26
extended technical school (UTS), 26
extraneus, 89

faculteiten, 78
faculteitsbestuur, 78
Faculties, 78, 79
fine arts, 119
Foreign Student Service/FSS, 127
forest survey, 109
Foundation for Curriculum Development/SLO, 52–53
Foundation for Management Science, 103
foundation school. *See* basis education
"Framework Act," 82, 105
Free University, Amsterdam, 63, 74–77, 103
Frisian language, 2; bilingual education, 2, 9–10, 11
funding, 4, 5, 9, 79
fysiotherapie, 35

Gemeentelijk Instituut voor Hoger Beroepsonderwijs 'de Maere,' 114
general education class, 128
General PII Diploma, 110
getuigschrift. *See* diplomas

gewoon lager onderwijs/GLO. See primary education
GLO. *See* primary education
grading, primary, 125; secondary, 120, 123, 124, 125; university, 120, 125; international education, 108, 110. *See also cijferlijst*
Graduate School of Management. *See* Interfaculty of Management Science
Graphic Media Development Centre/ GMDC, 111
gymnasia, 16–19, 26, 125

Haagse Academie voor Internationaal Recht, 111
Hague Academy of International Law/ HAIL, 111
handelsdagscholen/HDS, 26
HAO. *See* higher agricultural education
HAVO. *See* higher general secondary education
HBO. *See* higher vocational education
HBS, 26
HDS, 26
health care education: intermediate, 128; higher (HGZO), 34–36, 69–70, 130
health care instructors' training, 36, 64, 132
HEAO, 33–34, 113, 130, 131
HGZO, 34–36, 69–70, 130
HHNO, 36–37
higher agricultural education (HLO), 32–33, 130
higher economic and administrative education (HEAO), 33–34, 113, 129–130, 131
higher education. *See* higher vocational education (HBO); university education (WO); higher nonuniversity education
higher general secondary education (HAVO), 6, 13, 15–16, 116, 124, 129
higher health care education (HGZO), 34–36, 69–70, 130, 133–134
higher home economics education (HHNO), 36–37, 131
higher hotel schools, 37
higher laboratory education (HLO), 41, 44, 46, 130, 131
higher nautical education, 41, 44–45, 130, 131
higher nonuniversity education, 46–48
higher recreation and tourism education, 130
higher retailers' education (HMO), 37, 130
higher schools for health care (HSG), 34
Higher School of Forestry and Cultivation at Velp, 32
higher socio-pedagogical education (HSPO), 37–40, 130, 131
higher technical education (HTO), 28, 41–45, 130, 131
higher technical schools (HTS), 26, 41–44, 82, 83, 131
Higher Vocational Education Council, 27
higher vocational education (HBO), 6, 15, 27–46, 52, 54, 59–60, 64–65, 66, 69–71, 81, 118, 119, 121, 122, 125, 126–127; Placement Recommendations, 129–131; compared with U.S. programs, 28–29, 119; admission, 29; practical training periods, 29; international education, 112, 113, 114
higher vocational preparatory education (VHBO), 22, 125, 129
higher vocational training for museum staff, 30–31, 129
HLO. *See* higher agricultural education; higher laboratory education
HMO, 37, 129
hoger algemeen voortgezet onderwijs/ HAVO, 6, 13, 15–16, 116, 124, 129
hoger beroepsonderwijs/ HBO. *See* higher vocational education
Hoger Beroepsonderwijsraad/ HBO-Raad, 27
hoger economisch en administratief onderwijs/HEAO, 33–34, 113, 129–130
hoger gezondheidszorg onderwijs/HGZO, 34–36, 69–70
hoger huishoud- en nijverheidsonderwijs/ HHNO, 36–37, 131
hoger laboratorium onderwijs/HLO, 41, 44, 46, 130, 131
hoger landbouwonderwijs/HLO, 32–33, 130
hoger middenstandsonderwijs/HMO, 37,

129
hoger natuurwetenschappelijk onderwijs/HNWO, 44, 131
hoger nautisch onderwijs, 41, 44–45, 130, 131
hoger rekreatief en toeristisch onderwijs, 34, 130
hoger sociaal-pedagogisch onderwijs/HSPO, 37–40, 130, 131
hoger technisch onderwijs/HTO, 28, 41–45, 130, 131
hogere beroepsopleiding jeugdwelzijnswerk/HBO-j, 40, 131
hogere beroepsopleiding tot assistent-bibliothecaris, 38
hogere beroepsopleiding tot verpleegkundige/HBO-v, 69, 71
hogere beroepsopleiding voor boekhandel en uitgeverij, 40
hogere beroepsopleiding voor muziekmaakwerkers, 30–31
Hogere Bosbouw- en Cultuurtechnische School te Velp, 32
hogere burger school/HBS, 26
hogere hotelscholen, 37
hogere hotelvakscholen, 37
hogere opleiding tot vertaler, 34
hogere opleiding voor verpleegkundige/HOV, 69–71
hogere scholen voor gezondheidszorg/HSG, 34
hogere technische scholen/HTS, 26, 41–44, 82, 83, 131
hogere zeevart scholen, 44
hogeschool, 73, 103
home economics and socio-pedagogical education (MHNO/MSPO *nieuwe stijl*), 22–23
home economics education: LHNO, 20, 128; MHNO, 22–23, 128, 129; HHNO, 36–37, 131; MHNO/MSPO *nieuwe stijl*, 22–23
hoogleraren, 79
hotel-restaurant-cafe school, 24
HSG, 34
HSPO, 37–40, 131
HTO, 28, 41–45, 130, 131
HTS, 26, 41–44, 83, 131
Humanist Counseling Training Institute, 38

IE. *See* international education
IHBO 'de Maere,' 114
INAS, 23, 128
individual agricultural education (ILO), 20
individual home economics education (IHNO), 20
individueel huishoud- en nijverheids-onderwijs/IHNO, 20
individueel lager landbouwonderwijs/ILO, 20
Individual Programme of Study, 111–112
individual technical education (ITO), 20
individueel technisch onderwijs/ITO, 20
ing., 41, 85
ing-I, 32, 64
ing-II, 32
ingenieur, 41, 58–59, 85, 88, 135
Innovatie Commissie Opleiding Basisonderwijs, 53
Innovative Commission for Primary Teacher Education, 53
Institute for Higher Recreation and Tourism, 33–34, 113
Institute for Higher Vocational Education at Eindhoven, 45
Institute for Housing Studies/BIE, 111
Institute of Management (British), 112
Institut de Médecine Tropicale Prince Léopold, 110
Institute of Social Studies/ISS, 107–108
institutes for new teacher education, 59–60, 61, 65
Instituut VL-MO of the Stichting Vrije Leergangen, 63
Instituut voor Bedrijfskunde van Stichting Nijenrode. *See* Nijenrode
Instituut voor Hoger Beroepsonderwijs/IHBO Eindhoven, 45
Instituut voor Hoger Rekreatief en Toeristisch Onderwijs, 34, 113
instrumental/vocal training, 31
instrumentale/vocale opleiding en directie, 31
Interfaculteit Bedrijfskunde, 103
Interfaculty of Management Science, 103
interim algemene schakelopleiding. *See* INAS

interim general transitional training for in-service health care and welfare training. *See* INAS
intermediate agricultural education (MLO), 21–22, 129
intermediate economic and administrative education (MEAO), 22, 129
intermediate general secondary education (MAVO), 6, 9, 13, 14, 15, 116, 117, 124, 128
intermediate girls' school (MMS), 26
intermediate home economics education (MHNO), 22–23, 128, 129
intermediate laboratory education (MLO), 24, 129
intermediate retailers' education (MMO), 23–24, 129
intermediate socio-pedagogical education (MSPO), 21, 22–23, 129
intermediate technical education (MTO), 24, 129; report card, 157; diploma, 158
intermediate technical schools (MTS), 24, 26
intermediate vocational education (MBO), 6, 13, 21–26, 68–69, 71, 116, 128–129; admission, 21; alternatives, 25
Internationaal Instituut voor Luchtkaartering en Aardkunde, 109–110, 167–168
International Agricultural Centre/IAC, 111–112
International Business Program/IBP, 103, 113
International Course in European Integration/ICEI, 111
International Course in Food Science and Nutrition/ICFSN, 107
International Course in Health Development/ICHD, 110
International Course in Shipping Management Studies, 112
International Course on Agricultural Credit and Cooperative Banking, 112
International Course on Graphic Design/INCO-GD, 111
International Course on Housing, Planning and Building/ICHPB, 111
International Course on Industrialization/ICI, 113
International Course on Print Production/INCO-PP, 111
International Course on Regional Industrial Development for Executives/RIDE, 114
international education (IE): programs, 8, 107–114; language of instruction, 106; admission for master's degree, 107; credentials, 106–107, 135, 167–168
International Immunology Training and Research Center, 111
International Institute for Aerial Survey and Earth Sciences/ITC, 109–110, 167–168
International Institute for Hydraulic and Environmental Engineering/IHE, 112
International Institute for Land Reclamation and Improvement, 112
International Maritime Transport Academy, 112
International Soils Museum, 109
International Training Centre for Aerial Survey/ITC, 109–110, 167–168
International Union of Immunological Societies, 112
International Union of Local Authorities/IULA, 112–113
Interuniversitair Instituut Bedrijfskunde, 103
Interuniversity Institute of Management Science, 103
ir., 41, 85, 86, 88, 135

jeugdleider, 40, 131
jeugdvormingsleider, 40, 131
journalistiek, 38
journalism, 38, 130
junior year abroad: U.S., 113

Kaderwet, 82, 105
kandidaatsexamen, 64, 84, 85, 86, 88, 98, 102, 103, 134; sample, 165
kindergarten, 10
kleinkunst. *See* theater
kleuterleidsters opleidingsschool/KO, 23, 50–51
kleuteronderwijs/KO, 5, 6, 9–12
kleuterschool, 10, 11
KMBO, 25

Koninklijk Instituut voor de Marine, 48, 131
Koninklijk Instituut voor de Tropen, 110, 113
Koninklijk Militaire Academie, 47, 131
kort middelbaar beroepsonderwijs/KMBO, 25
kunstonderwijs. *See* art education
kweekschool, 54, 56

lager algemeen voortgezet onderwijs/LAVO, 6, 9, 13–14
lager beroepsonderwijs/LBO. *See* lower vocational education
lager economisch en administratief onderwijs/LEAO, 20, 128
lager huishoud- en nijverheids onderwijs/LHNO, 20, 128
lager landbouwonderwijs/LLO, 20, 128
lager middenstandsonderwijs/LMO, 20, 128
lager nautisch onderwijs. *See* nautical education
lager onderwijs-akte/LO-*akte*, 63, 64, 132
lager onderwijs/LO. *See* primary education
lager technisch onderwijs/LTO, 20–21, 128
lagere technische school/LTS, 26
Landbouwhogeschool. *See* Agricultural University
language of instruction, 9–10; IE, 106
LAVO, 6, 9, 13–14
law: business, 33, 129; degrees, 85, 86, 87, 88; international, 111; American, 113; comparison, old and new university program, 94–97
LBO. *See* lower vocational education
LEAO, 128
lector, 79
legislation, educational, 5. *See also* specific laws
lerarenopleiding 'tehatex,' 65, 133
LHNO, 20, 128
librarians' training, 39
licentiaat, 105
"licentiate" degree, 105
LLO, 20, 128
LMO, 20, 128
LO-*akte*, 63, 64, 132
LO. *See* primary education
logopedie-akoepedie, 35–36, 130
lower agricultural education (LLO), 20, 128
lower economic and administrative education (LEAO), 20, 128
lower general secondary education (LAVO), 6, 9, 13–14
lower home economics education (LHNO), 20, 128
lower retailers' education (LMO), 20, 128
lower technical education (LTO), 20–21, 128
lower technical school (LTS), 26
lower vocational education (LBO), 6, 13, 14, 15, 19–21, 25, 116, 117, 128; course levels, 19–20
LTO, 20–21, 128
lycea, 15–19, 26

M.A., IE, 108
management, developing countries, 114. *See also* business education
Maritime Research Institute, 112
Master of Business Administration, 114
Master of Electronic Engineering, 110
master's degrees, IE, 106–110, 113–114, 135
MAVO, 6, 9, 13, 14, 15, 116, 117, 124, 128
MAVO-3, 14, 128
MAVO-4, 14, 128
MBA, Nijenrode, 113–114
MBO. *See* intermediate vocational education
MBO, new style (MHNO/MSPO) programs, 22–23
MEAO, 22, 129
medicine, 80, 88, 89, 90, 101–102, 135; professional title, 85, 102, 135; IE, 110
meer uitgebreid lager onderwijs/MULO, 9, 26
meester in de rechten, 58, 85, 88, 135. *See also* law
MHNO, 22–23, 128, 129
middelbaar algemeen voortgezet onderwijs/MAVO. *See* intermediate general secondary education
middelbaar beroepsonderwijs/MBO. *See*

intermediate vocational education
middelbaar economisch en administratief onderwijs/MEAO, 22, 129
middelbaar huishoud- en nijverheidsonderwijs/MHNO, 22–23, 128, 129
middelbaar laboratorium onderwijs/MLO, 24, 129
middelbaar landbouwonderwijs/MLO, 21–22, 129
middelbaar middenstandsonderwijs/MMO, 23–24, 129
middelbaar nautisch onderwijs, 21, 24
middelbaar onderwijs-akte-A/MO-A, 60–61, 63–64
middelbaar onderwijs-akte-B/MO-B, 60–61, 63–64
middelbaar sociaal-pedagogisch onderwijs/MSPO, 21, 22–23, 129
middelbaar technisch onderwijs/MTO. *See* intermediate technical education
middelbare beroepsopleiding-verpleegkundigen /MBO-v or -vp, 23, 68–69, 133
middelbare horecaschool, 24
middelbare meisjes school/MMS, 26
middelbare opleiding, 37
middelbare technische scholen/MTS, 24, 26
middelbare textielhandelschool, 24
Middenschool experiment, 24–25
"middle school," 25
military education, 47–48
Minister of Education and Science, 4, 49, 105, 113, 118, 127
Ministerie van Onderwijs en Wetenschappen, 113. *See also* Ministry of Education and Science
Ministry of Agriculture and Fisheries, 25, 64, 78, 107, 110, 112; address, 127
Ministry of Defense, 47
Ministry of Development Aid, 112
Ministry of Economic Affairs, 46, 92
Ministry of Education and Science, 3, 4, 79, 113, 127; preprimary education, 10; lower and secondary vocational education, 19, 24, 66; apprenticeship, 25; higher vocational education, 27, 28, 34; teacher education, 49, 50, 52, 53, 54, 55–56, 57, 58, 60; university education, 77–78, 81, 82, 91, 94, 103, 106, 118, 125
Ministry of Public Health and Environmental Hygiene, 66
Ministry of Social Affairs and Public Health, 102
Ministry of Transport and Public Works, 112
MLO. *See* intermediate agricultural education; intermediate laboratory education
MMO, 23–24, 129
MO *akte*-A/MO-A, 60–61, 63–64
MO *akte*-B/MO-B, 60–61, 63–64
M.Phil., IE, 108
mr., 85, 86, 88
M.Sc., IE. 107, 109–110, 111
MSPO, 21, 22–23, 129
MTO. *See* intermediate technical education
MTS, 24, 26
MULO, 9, 26
Municipal Institute for Higher Vocational Education 'de Maere,' 114
music: higher vocational, 31, 131; teacher education, 31, 64, 133
Mutual Transfer in Higher Education Law (1979), 43, 81, 82–83
muziekonderwijsakte A-*algemene muzikale vorming*/A-AMV, 31, 64, 133
muziekonderwijsakte B-*schoolmuziek*, 31, 64–65, 133
muziekpedagogische academies, 31, 64
muziekvakonderwijs, 31, 133

N-*akte*, 65
National Agricultural College Deventer/NACD, 113
National Archivists' School, 48
National Higher School of Landscape Architecture, 32
National Institute for Higher Vocational Education, 34
National School of Aviation, 48
natural science education (HNWO), 44
nautical education: lower, 21; intermediate, 21, 24; higher, 41, 44–45, 130, 131
Nautisch College 'Noorder Haaks,' 112

Nederlands Instituut van Register-accountants (NIVRA), 46, 92
Nederlandse Film- en Televisieacademie te Amsterdam, 30, 44, 130
Nederlandse Genootschap tot Opleiding van Leraren voor het Beroepsonderwijs (Eindhoven), 60
Nederlandse Politie Academie, 48, 131
Netherlands Film and Television Academy, 30, 44, 130
Netherlands Institute of Registered Accountants (NIVRA), 46, 92–93
Netherlands Institute for Tourism and Leisure Studies (NWIT), 34, 113
Netherlands Police Academy, 48, 131
Netherlands School of Business, 33, 72, 103, 113–114
Netherlands Shipowners' Association, 112
Netherlands University Council, 78
Netherlands Universities Foundation for International Cooperation. *See* NUFFIC
New Primary Education Act (1981), 2, 5, 49, 51
New University Act (1981), 5, 6, 79
nieuwe agrarische lerarenopleiding, 64, 133
nieuwe lerarenopleiding/NLO, 59–60, 61, 65, 132–133
Nijenrode, the Netherlands School of Business, Breuken, 33, 72, 103, 113–114
NIVRA, 46, 92–93
NUFFIC, 8, 127; IE, 106–114
nursery school, 9, 10
nursing, 66–71; general (A), 67, 71; psychiatric (B), 67, 71; mentally handicapped (Z), 67–68, 71; nursing homes, 68, 71; basic nursing (HBO-v), 69, 71; public health (MGZ), 70; administrative and management (HOV), 70
nursing education, 66–71, 133–134; hospital based, 66–68, 133; vocational: MBO-v, 68–69, 133; HBO-v, 69–71, 133–134

occupational therapists' training, 35
Open University, 104–105
opleiding dietetiek, 34–35, 130
opleiding toegepaste huishoudwetenschappen/THW, 36
opleiding tot volledig bevoegd onderwijzer, 54
Opleidingscentrum voor de Dierveredeling Praktijkschool 'Barneveld,' 110–111
opleidingsscholen voor kleuterleidsters/OKs, 50
Organisatie voor Zuiverwetenschappelijk Onderzoek/ZWO, 79
Organization for Pure Science Research, 79
overig hoger onderwijs, 46

PA, 53–56, 63
PABO, 12, 49–56, 59–65, 132–133
Parliament, 4, 6, 73, 77, 80
partial examination, 123
participatie-onderwijs, 25
pedagogische academie/PA, 53–56, 63
pedagogische academie basisonderwijs/PABO, 12, 49–56, 59–65, 132–133
pharmacology, 87, 89; title, 85, 86, 89, 135
Ph.D., IE, 108
Philips International Institute of Technological Studies/PII, 110
Philips International Telecommunications Training Center/PITTC, 114
physical therapists' training, 35, 130–131
Placement Recommendations, 128–135
Plymouth Polytechnic (U.K.), 112
Polytechnic of Central London, 109
Post Graduate Programmes in Management and Industrial Extension for Developing Countries' Executives, 114
post-HBO-courses, 45–46, 131
post-HBO-cursussen, 45, 131
post-HEAO-cursus, 46
post-HLO-cursus, 46
post-HSG-cursus, 46
praktijkdiploma, 31
preliminary examination, 122, 123
preliminary studies, 31
preliminary year. *See propaedeuse*
preparatory course for higher vocational education (VHBO), 22,

129
preparatory higher and intermediate education (VHMO), 26
preprimary education (KO), 5, 6, 9–12; calendar, 10
Preprimary Education Act (1955), 5, 9
pre-university education (VWO). *See* university preparatory education
primary education (LO), 5, 6, 9–12; teacher training for, 49–57
Primary Education Act (1920), 5, 9, 10
Primary Education Act (1981), 5, 10, 11, 12, 49, 51
primary teacher education academies (PA), 53–56, 63
primary teacher education institutions, new, 12, 49–56, 59–65, 132–133
Prince Leopold Institute for Tropical Medicine, 110
principal's certificate, 51, 57
private schools, 3, 4, 5, 9, 27, 73
proefschrift, 86
professor, 79
promovendus, 87
propaedeuse, 30, 32, 34, 47, 52, 64, 93, 94
propaedeutisch examen, 27, 72, 81, 85, 87, 88, 93, 102, 134, 164; *eerste gedeelte*/P1, 85, 134; *tweede gedeelte*/P2, 85, 134
propaedeutische studie, 31
Protestant institutions, 3, 9
psycholoog, 85

Rabobank, Nederland, 112
Radio Nederland Training Centre/RNTC, 114
Radio Netherlands International, 114
rapporten, 121; sample, 157
recreation and tourism education, 34, 130
Rector Magnificus, 78
referent, 87
registeraccountant, 46–47, 92–93
report cards, 121; sample, 157
research education, 6
researchers, training of, 89
Research Institute for Management Science/RVB, 114
retailers' education: LMO, 20, 128; MMO, 23–24, 129; HMO, 37, 130
Rijks Hogere Landbouwschool te Deventer, 113
Rijks Hogere School voor Tuin- en Landschapsinrichting, 32
Rijksarchiefschool, 48
Rijksinstituut voor Hoger Beroepsonderwijs, 34
Rijksluchtvaartschool, 48
Royal Military Academy, 47–48, 131
Royal Naval Institute, 112, 131
Royal Special Education Decree (1967), 5, 9
Royal Tropical Institute, 110, 113

scholengemeenschappen, 3, 14, 16
scholen voor hoger economisch en administratief onderwijs, 33
scholen voor laboratoriumpersoneel, 44
scholen voor maatschappelijk werk, 39
schools of social work, 39
scriptie, 85–86, 91
secondary education, 5, 6, 13–26, 116, 123, 124, 125, 128–129. *See also* specific secondary education types
secondary education, general, 6, 58, 116, 123–125; LAVO, 6, 9, 13–14; MAVO, 6, 9, 13, 14, 15, 116, 117, 124, 128; HAVO, 6, 13, 15–16, 116, 124, 129, 133–134; VWO, 6, 13, 14, 16–19, 116, 117, 118, 119, 124, 129
secondary education, vocational, 6, 19–24, 26, 27–48, 116, 121, 122, 125, 126–127; LBO, 6, 13, 19–21, 116, 128; MBO, 6, 13, 21–26, 68–69, 71, 116, 125, 128–129, 133; HBO, 6, 13, 27–48, 129–131
Secondary Education Act (1963), 3, 5, 9, 13, 26, 27, 36, 49, 56, 58, 118
short courses. *See* specific IE institutions
short intermediate vocational education (KMBO), 25
slagervakschool, 24
social academies, 39, 83, 125, 131
social welfare, 119. *See also* higher socio-pedagogical education
sociology, 93–94
socio-pedagogical education: MSPO, 21, 22–23, 129; HSPO, 37–40, 104, 130, 131; MHNO/MSPO *nieuwe stijl*, 22–23

special education (BuO), 9, 12
speech pathologists'-audiologists' training, 35–36, 131
staatsexamen, 55, 60
state examination, 55, 60
State University of Groningen, 73, 104, 126
State University, Leiden, 74, 91–92, 103; IE, 113
State University of Utrecht, 84, 94–97, 101–102, 109
Stichting Bedrijfskunde, 103
Stichting der Nederlandse Universiteiten en Hogescholen voor Internationale Samenwerking. *See* NUFFIC
Stichting Internationaal Instituut voor Sociale Studien, 107–108
Stichting Nijenrode Instituut voor Bedrijfskunde 33, 72, 103, 113–114
Stichting voor Leerplanontwikkeling/SLO, 52–53
streekscholen, 25
student fees, 16
student mobility. *See* articulation
student rank, 119
studie-eenheid/SE, 126
studie-punt/SP, 126

tandarts, 85, 135
teacher education, 12, 28, 49–65, 119, 132–133; certification, 50–60, 63–65, 122, 132–133, 161–163
teacher training institutions, 12, 49, 50, 51–53, 63, 65, 132; preprimary, 23, 50–51, 122, 132; primary, 51–57, 132; secondary and vocational, 6, 37–38, 57–65, 88, 89, 132; senior secondary, 86, 88, 89; Placement Recommendations, 132–133; subject areas: agriculture, 64, 113, 132, 133; art education, 30–32, 37, 64–65, 133; health care, 36, 64, 132
technician's diploma programs, IE, 109
teacher training institute. *See* PABO
technical education: LTO, 20–21, 128; MTO, 24, 129; HTO, 28, 41–45, 130, 131
technologist diploma programs, IE, 109–110
tentamen, 63, 122, 123
Textile Engineering College, 114
textile trade school, 24
TH (technical universities), 82
theater: higher vocational, 31–32; teacher education, 31–32, 37–38, 65, 133
theateronderwijs, 31–32, 65, 130, 133
theological education, 73, 103–104
theological institutions, 104
toehoorder, 89
toehoorder nieuwe stijl, 89
toets, 122, 123
Tourism Management Course, 113
Training Center for Animal Husbandry Practical School 'Barneveld,' 110–111
transcripts, Dutch, 119–122; conversion to semester hours, 126–127
transfer between institutions and programs, 13–14, 82–83, 118
translations of credentials, 120
translators' training, 34, 130
transition class, 118
transition year, 3, 11, 13–14, 19, 80, 118
tweede fase, 89
tweedegraadsbevoegdheid, 58, 59, 60, 65, 132–133
tweetalig, 10
Twente University of Technology, 86, 98–101, 126
Two-Phase Structure Act, 122

uitgebreid lager onderwijs/ULO. *See* extended primary education
uitgebreid technische school/UTS, 26
ULO, 9, 26
UNESCO, 112
United Nations, 106, 113
University Council, 78
University Administration Act (1970), 4, 5
university education (WO), 72–105, 117–118; admission requirements, 80–81; comparison of old and new programs, 91; credits, 126–127; documents, 120, 121, 122; enrollments, 72; faculty, ranks and qualifications, 79–80; fields of study offered, 74–77, 83–87; new two-

phase structure, 59, 73, 79, 87–90, 122; overview, 6, 72–73, 83; private universities, 74; public universities, 73–74; theological institutions, 104; student services, 81–82; transfer with vocational institutions, 82–83; Placement Recommendations, 134–135
University of Amsterdam, 74, 86; international education, 111, 113
university preparatory education (VWO), 6, 13, 14, 16–19, 80, 116, 117, 118, 119, 124, 129
UTS, 26
universiteit, 73
University Act (1981), 5, 6, 79

vakgroepen, 78
vakstudie, 31
Vereiniging van Middelbare Technische Scholen, 24
verklaring, 120, 122; sample, 159
verpleegkundige in de maatschappelijke gezondheidszorg/MGZ, 69–71
veterinary medicine, 80, 89, 135; professional title, 85, 86, 135
VGLO. *See* continued primary education
VHBO. *See* higher vocational preparatory education
VHMO, 26
visual arts: academies, 30, 65, 119, 131; certification, 65
vocational education, 58, 116, 117–118, 119; LBO, 6, 19–21, 116, 128; MBO, 6, 21–26, 68–69, 71, 116, 125, 128–129, 133; HBO, 6, 13, 27–48, 52, 54, 63–65, 66, 69–71, 118, 121, 122, 125, 126–127, 129–131, 133–134; compared with U.S. programs, 28–29; admissions, 29
vocational counselors' training, 40
voorbereidend hoger en middelbaar onderwijs/VHMO, 26. *See also* preparatory higher and intermediate education
voorbereidend wetenschappelijk onderwijs/VWO. *See* university preparatory education
vooropleiding hoger beroepsonderwijs/VHBO. *See* higher vocational preparatory education
voortgezet gewoon lager onderwijs/VGLO, 9, 26
voortgezette agogische beroepsopleiding, 39
voortgezette opleiding gezondheidszorg/VOG, 69–71
vormingsklas, 23, 128
vormingsinstituten, 13, 25, 40
VWO. *See* university preparatory education

wetenschappelijk hoofdmedewerker, 79
wetenschappelijk medewerker, 79
wetenschappelijk medewerker le klas, 79
wetenschappelijk onderwijs/WO, 72–105. *See also* university education
Wet Wederzijdse Doorstroming Hoger Onderwijs, 43
World Health Organization/WHO, 112
World Meteorological Organization/WMO, 112

Young workers' educational institutes, 25
youth development leaders' training, 40, 131
youth welfare workers' training (HBO-j), 40, 131

Z-verpleegkundige, 66–68, 71, 133
ziekenverzorgende, 66, 68, 71

NATIONAL COUNCIL ON THE EVALUATION OF FOREIGN EDUCATIONAL CREDENTIALS

The Council is an interassociational group that serves as a forum for developing consensus on the evaluation and recognition of certificates, diplomas, and degrees awarded throughout the world. It also assists in establishing priorities for research and publication of country, regional, or topical studies. One of its main purposes is to review and modify admissions and placement recommendations drafted by World Education Series authors or others who might ask for such review. (The practices followed in fulfilling this purpose are explained on page 115.)

Chairperson—Gary Hoover, Director, Foreign Student Admissions, University of the Pacific, Stockton, CA 95211.

Vice Chairperson/Secretary—Karlene Dickey, Associate Dean of Graduate Studies and Research, Stanford University, Stanford, CA 94305.

MEMBER ORGANIZATIONS AND THEIR REPRESENTATIVES: American Association of Collegiate Registrars and Admissions Officers—Chairperson of World Education Series Committee, Alan Margolis, Registrar, Queens College, City University of New York, Flushing, NY 11367; G. James Haas, Associate Director of Admissions, Indiana University, Bloomington, IN 47405; Kitty Villa, Acting Assistant Director, International Office, The University of Texas at Austin, Austin, TX 78712. American Association of Community and Junior Colleges—Philip J. Gannon, President, Lansing Community College, Lansing, MI 48901. American Council on Education—Joan Schwartz, Senior Program Associate, Office on Educational Credit and Credentials, American Council on Education, Washington, DC 20036. College Entrance Examination Board—Sanford C. Jameson, Director, Office of International Education, College Entrance Examination Board, Washington, DC 20036. Council of Graduate Schools—Andrew J. Hein, Assistant Dean, The Graduate School, University of Minnesota-Twin Cities, Minneapolis, MN 55455. Institute of International Education—Martha Renaud, Manager, Placement Services Division, Institute of International Education, New York, NY 10017. National Association for Foreign Student Affairs—James Frey, Executive Director, Educational Credential Evaluators, Inc., Milwaukee, WI 53217; David Horner, Director, Office of International Students and Scholars, Michigan State University, E. Lansing, MI 48824-1035; Joann Stedman, Director, Office of International Student Services, Columbia University, New York, NY 10027.

OBSERVER ORGANIZATIONS AND THEIR REPRESENTATIVES:

USIA—Joseph Bruns, Chief, Student Support Services Division, Office of Academic Programs, USIA, Washington, DC 20547.

AID—Hattie Jarmon, Education Specialist, Office of International Training, U.S. Department of State/AID, Washington, DC 20523.

USOE—Robert Barendsen, Specialist on Education in Far Eastern Countries, U.S. Department of Education, Washington, DC 20202.

State of New York Education Department—Mary Jane Ewart, Associate in Comparative Education, State Education Department, The University of the State of New York, Albany, NY 12230.

INTERNATIONAL EDUCATION PUBLICATIONS OF AACRAO*

WORLD EDUCATION SERIES—**Guides to the Academic Placement of Students from Foreign Countries in Educational Institutions in the United States** (Prices vary—please note carefully): *Australia* (1983/ISBN 0-910054-78-9), $5; *Colombia* (1984/ISBN 0-910054-80-0), $3; *Commonwealth Caribbean* (1979/ISBN 0-910054-55-X), $6; *Greece* (1982/ISBN 0-910054-62-2), $2; *Indonesia* (1979/ISBN 0-910054-56-8) $4; *Islamic Republic of Pakistan* (1977/ISBN 0-910054-50-9), $6; *Israel* (1976/ISBN 0-910054-43-6), $6; *Italy* (1981/ISBN 0-910054-59-2), $2; *Jordan* (1969/ISBN 0-910054-24-X), $1; *Mexico* (1982/ISBN 0-910054-63-0), $4; *The Netherlands* (1984/ISBN 0-910054-79-7), $4; *New Zealand* (1981/ISBN 0-910054-61-4), $2; *Peru* (1983/ISBN 0-910054-77-0), $2; *Republic of China* (1977/ISBN 0-910054-48-7), $4; *Southern Africa* (1980/ISBN 0-910054-58-4), $6; *Switzerland* (1981/ISBN 0-910054-60-6), $2; *Thailand* (1978/ISBN 0-910054-54-1), $4, *United Kingdom: Medical Laboratory Science, Occupational Therapy, Physiotherapy* (1980/ISBN 0-910054-57-6), $6.

Placement Guides to Accompany U.S. Office of Education Publications: *Ghana* (1976/ISBN 0-910054-44-4), $3; *Japan* (1976/ISBN 0-910054-47-9), $3; *Selected French Speaking Sub-Saharan African Countries* (1975/ISBN 0-910054-40-1), $1; *Spain* (1975/ISBN 0-910054-39-8), $2.

Do-It-Yourself Evaluation of Foreign Student Credentials (1966/ISBN 0-910054-66-5), $1.

Out of print publications are listed below. They are available from University Microfilms International, Box 1467, Ann Arbor, MI 48106. In the U.S., call (800) 521-0600; in Canada, (800) 268-6090. Please indicate order number.

Title	Order No.		Prices
Algeria (1978/ISBN 0-910054-52-2)	2,016,032	X$39	
Canada (1974/ISBN 0-910054-36-3)	PB 01,663	X 52	LB$57
Coastal Countries of the Arabian Peninsula (1974/ISBN 0-910054-35-5)	2,006,186	X 49	LB 54.70
France (1975/ISBN 0-910054-41-X)	2,015,045	X 66.80	LB 71.80
Greece (1974/ISBN 0-910054-34-7)	2,006,187	X 20	LB 25
India (1971/ISBN 0-910054-29-0)	2,011,730	X 99	LB 104.30
Iran (1970/ISBN 0-910054-62-2)	2,022,855	X 26	
Korea (1975/ISBN 0-910054-42-8)	2,017,394	X 28.50	LB 33.50
Libya (1972/ISBN 0-910054-31-2)	2,006,188	X 29	LB 34
Mexico (1968/ISBN 0-910054-23-1)	PB 01,662	X 75.80	LB 80.80
Nigeria (1977/ISBN 0-910054-49-5)	2,011,731	X 32	LB 37
Norway (1971/ISBN 0-910054-28-2)	PB 02,322	X 22.80	LB 27.80
Saudi Arabia (1968/ISBN 0-910054-22-3)	2,016,033	X 40	LB 45
Syria (1978/ISBN 0-910054-51-7)	2,007,718	X 36	LB 41
Turkey (1972/ISBN 0-910054-30-4)	PB 00,640	X 36	LB 41
United Arab Republic (1970/ISBN 0-910054-25-8)	OP 71,678	X 22	LB 27
United Kingdom (1976/ISBN 0-910054-46-0)	2,016,031	X 72	LB 77
Venezuela (1978/ISBN 0-910054-53-3)	2,017,810	X 35.80	LB 42.80
Vietnam (1970/ISBN 0-910054-27-4)	2,022,856	X 37	

Placement Guides to Accompany U.S. Office of Education Publications:

Brazil (1974/ISBN 0-910054-38-X)	2,016,032	X 20	LB 25
Colombia (1974/ISBN 0-910054-37-1)	PB 01,665	X 20	LB 25
Hungary (1972/ISBN 0-910054-32-0)	2,022,854	X 20	
Iran (1976/ISBN 0-910054-45-2)	2,006,189	X 20	LB 25
Kenya (1973/ISBN 0-910054-33-9)	2,006,190	X 20	LB 25

X–Xerographic LB–Cloth Bound

*Payment for members should be enclosed for all orders amounting to $30 or less; for nonmembers, payment must accompany all orders. Requests should be addressed to

American Association of Collegiate Registrars and Admissions Officers
One Dupont Circle, NW, Suite 330, Washington, DC 20036

A complete list of all AACRAO publications is available from the office of the Association. Out of print WES books, published prior to 1968, are listed in the AACRAO publications brochure, but are available only through University Microfilms.